Before the Independent Hearings Panel
at Waimakariri District Council

under: the Resource Management Act 1991

in the matter of: Proposed private plan change RCP31 to the Operative Waimakariri District Plan

and: **Rolleston Industrial Developments Limited**
Applicant

Supplementary evidence of Tim Walsh

Dated: 5 September 2023

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SUPPLEMENTARY EVIDENCE OF TIM WALSH

1 My full name is Timothy Carr Walsh. I am a senior planner practising with Novo Group Limited in Christchurch. My qualifications and experience are set out in full in my statement of evidence.

2 In accordance with the Panel's Minute 6, the following supplementary evidence addresses matters raised at the hearing by the Panel or submitters, and/or any consequential changes the applicant wishes to propose in response to evidence of submitters, and/or the outcome of expert witness conferencing.

REPLY TO SUBMITTER CONCERNS

Springs

3 During the hearing a submitter raised the possibility of a spring within the plan change site not identified on the ODP. This was subsequently investigated by Ms Drummond who found that it is not a spring (see the supplementary evidence of Ms Drummond). Despite this, and in acknowledgement that springs can appear in areas where there were previously none, the ODP has been amended (see **Attachment 1**) to require any additionally identified springs to be assessed to determine an appropriate aquatic buffer distance. Ms Drummond is satisfied that the amendment provides appropriate protection for any springs discovered at subdivision stage.

National Grid

4 Ms McLeod provided the Panel with proposed amendments to rules to satisfy the relief sought by Transpower. Those amendments are included in the revised suite of amendments at **Attachment 2**. Minor changes have been applied so that the amendments fit the structure of the District Plan. The substance of Transpower's proposed amendments are unaltered.

Landscaping

5 Some submitters have raised concerns regarding the suitability of proposed tree/plant species and the ongoing maintenance of proposed landscaping. I note that the specifics of the proposed landscape treatments will be determined at subdivision stage and will require Council approval. Further, an amendment to the ODP is proposed to allow some flexibility in tree/plant selection. These aspects of the ODP will ensure the avoidance of plants that are unlikely to thrive and/or plants that are not suitable.

6 In terms of ongoing maintenance, I consider it appropriate that the ODP is amended to require a five-year maintenance period for proposed landscape treatments in accordance with the

recommendation of Mr Compton-Moen[1]. This requirement relates to Landscape Treatments A, B and C as well as landscaping within the green and blue networks. Mr Compton-Moen also recommends a landscape management plan be developed at subdivision stage to ensure a successful outcome. I agree and have amended the ODP to require this (see **Attachment 2**).

7 I note that the urban design and landscape experts generally had positive feedback on the fundamentals of the indicative masterplan – despite some disagreement in respect of the appropriateness of the proposal in the local context. I consider the ODP (both the plan and text) provides a high degree of certainty that the outcomes of the indicative masterplan will be realised. Further, the fine-grained detail in respect of design matters will be addressed and managed via the yet to be developed design guidelines.

Flooding Freeboard Rule

8 Mr Margetts considers the proposed flooding freeboard rule to be unworkable citing potential inaccuracies with the formula used in the rule. Rather than providing a formula, an amendment to the proposed rule simply refers to Council's 'Medium' flood hazard areas to specify where the 500mm freeboard requirement applies (see **Attachment 2**).

REPLY TO SUPPLEMENTARY EVIDENCE OF S42A OFFICER

9 The following reply uses the same sub-headings as the s42A Officer's supplementary evidence dated 23 August 2023.

Planning Constraints

Tsunami hazard

10 The Officer notes that there is agreement between all planning witnesses that there is no specific policy reference for tsunami hazard management. This is correct, however, as per my evidence in chief[2], I refer to CRPS Policy 11.3.5 which provides a risk management approach for natural hazards not specifically addressed. Further, while there are no planning documents that reference the Canterbury Tsunami Evacuation Zones (which I have used to represent a development constraint), I do consider these zones relevant to district planning. While I agree that current tsunami modelling is not sufficiently robust to include in district plans, it is the best information available to help inform zoning decisions. In my view, giving the modelling some consideration is preferable to ignoring the issue altogether.

[1] Supplementary evidence of Mr Compton-Moen.

[2] See paragraphs 58-60 of my evidence in chief.

Approach to Urban Growth

11 The s42A Officer is of the opinion that the identified development constraints do not require "*Council or the Greater Christchurch Partnership to reconsider the proposed urban growth approach around existing main towns and instead look further inland*". The identified constraints do not affect the current provision for urban growth in the district. However, the constraints may have an impact on proposed provision for urban growth, especially in relation to the Kaiapoi NDA as discussed further below. Further, the constraints are likely to impact/influence future planning for urban growth including through the GC Spatial Plan and CRPS review processes.

12 In my view, the development capacity shortfall in the medium and long term (as discussed from paragraph 40) requires additional land to be zoned for residential development. That being the case, the identified development constraints (and possibly others) may present barriers to expanding existing urban centres (particularly around Kaiapoi). In contrast, the plan change site is relatively unconstrained.

Kaiapoi New Development Area

13 Having considered the evidence the s42A Officer and Mr Bacon, I remain of the view that there is significant uncertainty as to whether the Proposed Plan Kaiapoi NDA will be able to be developed as intended, if at all. Further, while it is not a decision for the Panel, I consider that there are strong grounds for the NDA to be refused given Policy 11.3.1 of the CRPS which seeks avoidance of new subdivision, use and development of land in high hazard areas. On this matter, I note that my evidence in chief is incorrect in respect of the extent of the high hazard area. The flooding constraint map shows the 1 in 200-year flood event when it ought to have shown the 1 in 500-year event (as per the definition of high hazard areas in the CRPS). The extent of the 1 in 500-year event is larger than the 1 in 200-year event which means that approximately 76.5% of the Kaiapoi NDA is exposed to high hazard, 15.9% more land area than the 1 in 200-year event.

14 The Officer considers that Policy 11.3.1 would no longer be relevant in respect of the Kaiapoi NDA if the ground level were raised – because it would remove the high hazard. Indeed, I understand this is the intention. Mr Bacon identifies several examples of where this has been achieved, including Beach Grove, Silverstream and Waimak Junction. The key difference between those subdivisions/developments and the Kaiapoi NDA is that they are located in Greenfield Priority Areas whereas the Kaiapoi NDA is within a Future Development Area. As set out in my evidence in chief, Policy 11.3.1 allows for mitigation or avoidance of high hazard on existing urban zoned land and land within Greenfield Priority Areas. The Kaiapoi NDA is neither and therefore, I consider there is no pathway available to enable subdivision and

development within it as Policy 11.3.1 would require such development to be 'avoided'[3].

15 I have discussed this matter with the Officer and understand that the reason for our difference in opinion relates to whether raising the ground level is considered hazard mitigation works. The Officer considers that raising ground level is not an example of hazard mitigation works. Hazard mitigation works are not defined in the CRPS, but Issue 11.1.3 provides some guidance where it says that they "*are works intended to control the effects of natural events and provide benefits to people and the community. They include flood control works such as stop-banks, or land stabilisation works such as tree planting or retaining walls*". While raising the ground level is not referenced, the list of examples is not exhaustive. In my view, a resource consent application under the District Plan for earthworks to raise the ground level within the NDA would be classified as hazard mitigation works. The purpose of the works would be to mitigate or avoid the flood hazard. This is not provided for in Policy 11.3.1 of the CRPS and therefore the application would need to be declined.

16 My final comment in relation to this matter relates to the s42A Officer's comment that "*large scale earthworks would also likely be required for flood and stormwater management purposes for the development of RCP031 if approved*". Large scale earthworks are commonly associated with large scale subdivisions, but there is a key difference between those that would be required to enable development in the Kaiapoi NDA and those within the plan change site – earthworks within the plan change site are not required to mitigate/avoid high hazard flood risk. While most of the Kaiapoi NDA is exposed to high hazard, most of the plan change site is exposed to low hazard flood risk with discrete areas of medium hazard.

17 I understand that the applicant's closing legal submissions will address the constraint imposed by the Christchurch International Airport's noise contours.

Traffic Safety and Network Effects

Areas of Disagreement

18 I acknowledge the continuing disagreement between the transport experts on the matters listed at paragraph 3 of the joint witness statement. I have no further comment in respect of VKT, GHG emissions and viability/provision of non-private car travel. I do not consider these matters are significant issues for the reasons set out in my evidence in chief and summary evidence. I also understand that these matters will be covered in closing legal submissions.

[3] See paragraphs 35-40 of my evidence in chief.

19 I make the following brief comments in respect of the three remaining areas of disagreement.

Upgrades to the SH1 / Tram Road interchange

20 Waka Kotahi made a submission on PC31 but decided not to provide evidence or speak to its submission at the hearing. Nor did Waka Kotahi's submission raise any concerns about upgrades to this interchange as being an issue. On that basis, I assume Waka Kotahi are not concerned with this matter. Despite this, I consider it appropriate that the subject rule requires limited notification to Waka Kotahi absent its written approval, given their jurisdiction over this interchange. See **Attachment 2** for the proposed amendment.

Upgrades to surrounding road connections to the network

21 Mr Fuller has advised me that this disagreement relates to a concern of Mr Metherell that minor improvements (such as changes to road signs, line markings etc.) will be required in relation to roads surrounding (and near) the plan change site including Whites Road, Bradleys Road, Mill Road, and Threlkelds Road. The ODP has been amended to require consideration of necessary improvements at subdivision stage (see **Attachment 1**).

22 Mr Fuller's advice is contained in a memorandum at **Attachment 3**.

Higher-speed peri-urban road environment within the proposed development

23 I do not consider this to be an issue as there is no intention for any roads within the plan change site to be high speed. Despite this, the ODP has been amended to require consideration of the management, design and/or treatment of roads within the subdivision in order to reduce vehicle speeds, accounting for the safety and efficiency of all road users (see **Attachment 1**).

Intersection Improvements

24 Regarding intersection improvements, the transport joint witness statement identifies the need for three additional rules to impose the agreed development thresholds as summarised in the s42A Officer's evidence[4]. The three additional rules are included in **Attachment 2**.

25 Further, having reflected on the proposed rule in respect of the Tram Road / State Highway 1 interchange, I consider it is more appropriately located in the subdivision chapter. I have discussed this with the s42A Officer, and I understand he agrees.

[4] See paragraph 10 of the s42A Officer's supplementary evidence.

26 The s42A Officer considers that the proposed rules introduce some uncertainty in respect of achieving 850 households as proposed and may also affect delivery of the proposed development capacity. I agree, but provide the following comments in respect of each intersection.

Mill/Ōhoka

27 The required improvements at the Mill Road / Ōhoka Road intersection (or Flaxton Road / Threlkelds Road intersection) would be required prior to occupation of any dwellings and/or commercial buildings. I understand that the required safety improvements are readily achievable, therefore this does not have the potential to prevent development. The simplest and most cost-effective solution (at least for the short term) involves a speed reduction at the Mill Road / Ōhoka Road intersection, acknowledging that it is subject to full Council approval. While considerably more costly, I understand the alternative (or potential longer term) solution of a roundabout at the Flaxton Road / Threlkelds Road intersection (and Mill Road / Threlkelds Road intersection reconfiguration) is achievable. Therefore, it seems unlikely that the rule requiring these intersection safety improvements will prevent or stall development.

Tram/Whites

28 While I accept the joint witness statement recommendation that a rule be included to address potential safety matters at the Tram Road / Whites Road intersection beyond the development of 250 allotments, I have concerns about the allowances made for growth on Tram Road (not generated by the proposed plan change). I expect that a 20% increase in traffic on Tram Road could only be generated by increased development opportunities, i.e. new residential zoning. The obvious potential for additional residential zoning west of the Whites Road intersection are the potential rural residential areas at Oxford and Swannanoa as discussed in paragraphs 47-49 of my summary evidence. If traffic growth from residential rezoning at Oxford and/or Swannanoa has the potential to affect traffic safety at the Tram Road / Whites Road intersection, it would need to be addressed through the necessary Schedule 1 process(es). In my view, the applicant has no obligation to consider potential traffic growth on Tram Road resulting from yet to be made and/or determined rezoning requests. I also understand that this matter will be covered in closing legal submissions.

29 That matter aside, the joint witness statement notes that some interim safety upgrades would be required to provide for up to 250 allotments and provides three examples of the types of upgrades at paragraph 19. The statement also suggests that some interim safety upgrades may require acquisition of land outside the road corridor. If this were the case, the subdivider would likely be reliant on Council's powers to

acquire land. However, none of the interim safety upgrade examples provided in paragraph 19 would require land beyond the road corridor, and I understand that the required level of safety can be achieved without the acquisition of land outside the road corridor. The ODP has been amended to require consideration of interim safety upgrades at the Tram Road / Whites Road intersection (see **Attachment 1**).

30 The experts agree that the construction of a roundabout would address potential safety and capacity concerns in respect of development of more than 250 allotments. I note that Mr Metherell and Mr Binder prefer that the rule explicitly require the provision of the roundabout whereas Mr Fuller prefers that the rule to focus on the outcomes sought to allow flexibility of options. I do not consider it appropriate to impose rules requiring the provision of infrastructure that may not be required – particularly in light of my comments regarding traffic growth above.

31 I understand that the construction of a roundabout would require acquisition of land outside the road corridor. With Council's assistance, it is likely that a roundabout could be constructed.

Tram/Bradleys

32 The recommended development threshold of 450 allotments for the Tram Road / Bradleys Road intersection is unlikely to have any impact on development of the plan change site given a roundabout is scheduled to be constructed in 2025.

Implications for Development Capacity

33 In the worst-case scenario, it is possible that development of the plan change site may be stalled for an unknown length of time at 250 dwellings. While this seems unlikely, it would result in a reduction of the proposed development potential by approximately two-thirds. In the context of a medium and long term development capacity shortfall in the district (as discussed below from paragraph 40), I consider that 250 dwellings represents significant development capacity. I note that Mr Akehurst is of the same view[5]. Further, I note that Plan Change 67 to the Selwyn District Plan provided 131 allotments and that was considered significant which was also determined in the context of a shortfall of residential capacity in that particular district.

Public Transport

34 While the experts cannot agree on its viability, they do agree "*that an on-demand service could be realised that would serve Ōhoka, western Rangiora and western Kaiapoi*". If PC31 were approved, it is likely that an attempt would be made to service it with public transport of some

[5] See paragraphs 33 to 39 of Mr Akehurst's supplementary evidence.

type at some point in the future. Existing and future residents of Ōhoka (and other areas) would benefit from having access to an on-demand service. Fewer residents would benefit from a peak period extension of fixed Route 92. If neither of these services eventuated, I note that Christchurch bound public transport services can be accessed via the park and ride facilities at Kaiapoi and Rangiora. These facilities are popular, as recently reported in North Canterbury News[6]. The article quotes the Council transport manager saying that the "*direct bus services have proved to be very popular across the district, as they provide a quick route into Christchurch City and to the Hospital, with limited stops*".

Three Waters Management

Stormwater

35 The Panel requested that I provide my view on:

> *"what the effect of accommodating above ground stormwater attenuation basins (and the possible limitations on the stormwater attenuation and treatment servicing of 26 ha of the site along Whites Road) has on the overall yield and timeframes for development stages".*

36 I understand that accommodating stormwater detention within above ground basins would have no impact on residential yield or timing of development. As per the water related matters joint witness statement, there is a scenario where the density of housing may need to be reduced in the 26 hectare unattenuated area adjacent the Whites Road boundary. However, it is highly unlikely that no development could be accommodated in that part of the site. Messrs O'Neill, McLeod and Throssell (in particular) are confident that compensatory storage throughout the balance of the site will be able to provide hydraulic neutrality in respect of the unattenuated area (which represents 17% of the site).

37 I agree with the s42A Officer that there is benefit in the matter of the unattenuated area being highlighted in the ODP. See the additional wording at **Attachment 1**.

Groundwater Interception Risk

38 I understand Mr Roxburgh's concerns in respect of the risk of groundwater interception. This matter has certainly caused issues in the past where backfilled infrastructure trenches have short-circuited groundwater flow with consequential issues such as dried up waterways that were previously fed by groundwater. The risk is real and must be properly considered and managed. The applicant's

[6] 'The problem with Park & Ride', North Canterbury News, 25 August 2023.

engineers are alive to the risks and are confident that the available mitigation measures will ensure groundwater flows are not intercepted. These mitigation measures have been developed and refined from the lessons learned where unacceptable effects have resulted in the past. The appropriate time to decide which mitigation measures are required is subdivision stage following groundwater monitoring.

39 Despite the significance of the potential groundwater interception issue, I consider it can be appropriately mitigated.

Mr Yeoman's Response to Questions

40 The matter of residential development capacity within the district is of central importance to consideration of the plan change request. It is addressed in the supplementary evidence of Messrs Akehurst and Sellars which are both informed by analysis undertaken by Mr Sexton. That analysis is a review and validation of development capacity set out in the WCGM22 model and relied on by Mr Yeoman in his response to the Panel's Minute 5. The analysis is communicated via a memorandum included at **Attachment 4**. I also note that the analysis was informed, in part, by advice I prepared that sets out the correct methodology for determining development capacity for greenfield areas as per the CRPS, Our Space, the Greater Christchurch Housing Development Capacity Assessments of July 2021 and March 2023, and the independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by Harrison Grierson. My advice is appended to Mr Sexton's memorandum.

41 As also set out and discussed in the supplementary evidence of Messrs Akehurst and Sellars, Mr Sexton's analysis has identified a medium-term development capacity shortfall of 1,239 dwellings – capacity for supply of 4,361 dwellings against an estimated demand for 5,600 dwellings. This contrasts with the estimated surplus of 350 dwellings in the 2023 HDCA[7]. The reasons for the differing capacity estimates are explained in detail in Mr Sexton's memorandum. In summary, the analysis considers Mr Yeoman has incorrectly estimated development capacity because the WCGM22 model:

41.1 Includes stormwater detention and treatment areas and commercial areas in the 25% infrastructure deduction where these areas ought to be deducted separately,

41.2 Includes parcels not available to be developed such as those containing recreation and utility reserves, pre-schools, protected items etc.,

[7] Please note that Mr Yeoman's summary evidence provides a revised surplus of 281.

41.3 Includes parcels already developed that do not provide scope for infill or intensification and further capacity in the medium term,

41.4 Includes parcels subject to restrictive covenants that would limit or prevent further development/subdivision, and

41.5 Includes parcels where infill development is unlikely.

42 The identified medium-term development capacity shortfall is a problem that requires a solution. Mr Akehurst correctly points out that in these circumstances the NPS-UD (via Clause 3.7) obligates Council to, among other things, change any planning documents that wholly or partly result in the development capacity insufficiency as soon as possible. Theoretically, the District Plan provides ample development capacity by way of the MDRS. However, because large scale intensification in the Waimakariri context is unlikely (see the evidence in chief of Messrs Akehurst, Sellars and Jones), additional land needs to be identified to solve the problem.

43 PC31 provides the opportunity to significantly reduce the shortfall. Further, it can be achieved in a timely manner given the advanced stage of the PC31 process. While other plan changes and/or the Proposed Plan process may be able to account for the remaining shortfall, the development constraints identified in my evidence in chief (and possibly others) may limit further development opportunities in the district. There is no certainty as to the nature or adequacy of capacity that other plan changes and/or the Proposed Plan might be capable of delivering. In the context of section 32(2)(c), I consider there is a greater risk of not acting and forgoing development capacity that is required in the short-medium term, when there is uncertainty as to the extent to which other processes might otherwise provide that capacity.

44 While the medium-term development capacity situation is of primary relevance to consideration of PC31, the long-term situation is also relevant. My evidence in chief focuses on the development capacity of the Proposed Plan NDAs and suggests capacity is significantly less than Council assumes. Further, as noted in the memorandum at **Attachment 4**, the errors identified in the WCGM22 are likely to also reduce the assumed long-term capacity for the district. Mr Yeoman has clarified that the NDAs only provide development capacity in the long-term. That being the case, Council does have some time available to identify land for residential development in the long-term in addition to the NDAs. However, while there is time to address the long-term development capacity shortfall, every bit of additional capacity will be important. This is particularly the case given the scale of the development capacity shortfall (particularly if the Kaiapoi NDA cannot be developed) and constraints on development which may limit development opportunities. In this context, I consider that approving

PC31 would be a strategic decision in the medium and long-term in accordance with Objective 6(b) of the NPS-UD.

ISSUES AND COMPLEXITY

45 Many issues have been raised throughout this plan change process. As is commonly the case, some of the issues deserve careful consideration while others are more peripheral. In my view, the range and complexity of issues (and the proposed regulatory responses to them) is not unusual when compared to similar scale urban rezonings. It is not at all unusual for plan change ODP's to enable zoning on the basis that future consenting processes will be able to address matters of detail comprehensively and effectively at a later stage.

46 Recent rezonings in Selwyn and Christchurch have ODPs that manage a range of issues. A relevant recent example is the approved Plan Change 69 (Lincoln) to the Selwyn District Plan, which was subsequently 're-approved' by a separate hearings panel determining rezoning decisions for the Proposed Selwyn District Plan. That ODP manages a plethora of issues (many that are similar to PC31) considered during the rezoning process such as:

46.1 Providing appropriate protection of springs and wetlands,

46.2 Accounting and providing for required transport infrastructure upgrades,

46.3 Servicing challenges including stormwater management,

46.4 Flooding risk including coastal influence and the predicted impacts of climate change,

46.5 Groundwater interception,

46.6 Reverse sensitivity issues including proximity to a wastewater treatment facility,

46.7 Urban form and connectivity concerns, including public transport provision,

46.8 Cultural issues, and

46.9 Provision of schooling.

47 I understand that many of these issues were deemed appropriate to be addressed at resource consent stage.

48 I note that the applicant for Plan Change 69 was the same as for PC31 and many of the applicant's experts for Plan Change 69 are also involved in PC31. The level of detail before the Panel is the same if not

greater than that presented throughout the Plan Change 69 process. As with Plan Change 69, some complexity is reduced because the plan change site is owned by a single entity.

49 The East Papanui OPD (Cranford Basin) in the Christchurch District Plan is another example of a highly complex area with ODP provisions dealing with issues such as groundwater interception, wetlands, waterbodies, and cultural values.

50 These are two of many examples where ODPs have enabled zoning on the basis that consenting processes will be able to address matters of detail comprehensively and effectively at a later stage.

51 In my view, there is nothing unusual about this plan change that would warrant a different approach to other rezonings occurring throughout Canterbury.

SCALED BACK ODP

52 A scaled back version of the ODP has been developed (referred to in supplementary evidence of others as the 'reduced ODP') to show what PC31 would look like if the Panel were to prefer the evidence of Mr Goodfellow, who at the hearing indicated he would support approximately half the site being developed. The reduced ODP and associated indicative masterplan is included at **Attachment 5** and provides for approximately 360 to 442 dwellings.

53 While I consider the current proposal represents a more efficient use of land, I do accept that the reduced ODP retains the fundamentals of the plan change proposal albeit with a reduced density in the southern half of the site. I understand the reduced ODP would also be acceptable from an urban design and landscape perspective based on the supplementary evidence of Messrs Falconer and Compton-Moen.

54 However, the reduced ODP would have a disadvantage compared to the current proposal. It would provide reduced capacity and therefore be of lesser assistance to the Council in meeting its obligations under the NPS-UD in light of the demonstrated shortfall in medium-term.

CONCLUSION

55 The conclusions reached in my evidence in chief remain unchanged after consideration of submitter evidence.

Dated: 5 September 2023

Tim Walsh

ATTACHMENT 1: AMENDED OUTLINE DEVELOPMENT PLAN TEXT

Changes to the ODP text proposed via my summary evidence are emphasised in ~~struck through~~ and underlined red text and changes proposed via this supplementary evidence are emphasised in ~~struck through~~ and underlined blue text.

OUTLINE DEVELOPMENT PLAN – ŌHOKA

Introduction

The Ōhoka Outline Development Plan ('**ODP**') provides for a comprehensive and carefully considered expansion of Ōhoka. The area covers approximately 156 hectares extending in a southwest direction from Mill Road and bounded on either side by Bradleys Road and Whites Road.

Key features of ODP area include:

- a village centre providing local convenience goods and services for residents and a small village square for community events/gatherings,
- provision for approximately 850 residential units, a school, and a retirement village (if a school is not developed, approximately 42 additional residential units could be established),
- provision for a polo field and associated facilities,
- a green and blue network providing for movement, recreation, and ecological enhancement of waterways, and
- high amenity streets appropriate for the rural setting.

All requirements specified below are to be designed/coordinated to the satisfaction of Council prior to approval of any subdivision consent application.

Land Use Plan

The development area shall achieve a minimum net density of 12 households per hectare, averaged over the Residential 2 zoned land. The zone framework supports a variety of site sizes to achieve this minimum density requirement. Staging is required to ensure the ODP area develops in a logical and appropriate manner in recognition of the current urban form of Ōhoka. Staging will proceed from the Mill Road end towards the southwest. Ōhoka Stream forms the first line of containment, the realigned and naturalised spring channel forms the second line, Ōhoka South Branch the third, and Landscape Treatment B the last.

Confirmation at the time of subdivision of each stage, and an assessment as to how the minimum net density of 12 households per hectare for the overall area can be achieved, will be required.

Residential activities are supported by key open spaces, waterbodies, and two small commercial centres, the larger of which is to become part of the village centre of Ōhoka. These commercial centres will provide good accessibility and help to meet some of the convenience needs of residents in the immediate area. Car parking within the village centre can provide a public transportation hub via the provision of park and ride services. It can also provide for ride sharing. The parking area will be of a high amenity standard enabling it to be integrated into a village square to provide additional hard surface area when required for community events, as well as providing for parking for the Ōhoka farmers market at the neighbouring Ōhoka Domain. Provision is also made to host the

Ōhoka farmers market during winter months when ground conditions in the domain are unsuitable.

Provision is made for educational facilities in the area immediately adjoining the larger of the two commercial zones on Whites Road on the south side of the Ōhoka Stream. The prospect of developing such facilities will be subject to a needs assessment according to the Ministry of Education processes. If the Ministry decides that educational facilities are not required, additional residential properties will be developed at a minimum net density of 12 households per hectare.

Residential development shall retain rural village characteristics within the street environments and along property boundaries. Development controls and design guidelines specific to the development area shall be prepared and submitted to Council for approval. The guidelines will ensure that development is of the quality and character required to maintain the rural village character of Ōhoka. An independent design approval process will be established and most likely administered by a professional residents' association which would appoint an architect and landscape architect to review and approve proposals to demonstrate compliance with Rule 31.1.1.9A of the District Plan.

Movement Network

A road network and classification for the ODP site shall be developed that, together with the green network, delivers a range of integrated movement options. A key design principle of the movement network shall be facilitating movement towards the village centre and within the ODP site, particularly on foot or bicycle. In recognition of the character of the Ōhoka setting, several specific road types within the ODP area shall be developed with varying widths and layouts depending on the function and amenity. These are to be developed in collaboration with Council at subdivision consenting stage. Indicative cross-sections of the street types are shown in Figure 1.

Gateway treatments are located at the intersection of Mill Road and Bradleys Road, and on Whites Road at the intersection of Ōhoka Stream. The Mill Road / Bradleys Road gateway is directly at the intersection with a hard contrast from flat open rural land to a built-up edge supported by the verticality of landscape treatment. The Whites Road gateway will use the Ōhoka Stream as a distinct design feature. Combined with specific landscape treatment and bespoke design details, such as lighting and signage, this will create a strong rural gateway. The existing 100km/hr speed limit would ideally reduce to 60km/hr from the Ōhoka Stream gateway. There are potential minor traffic thresholds proposed at the southern boundaries of the ODP area at both Bradleys Road and Whites Road. The speed limit would ideally reduce to 80km/hr on Bradleys Road and Whites Road alongside the ODP frontage (outside the gateways). Regardless, two pedestrian/cycle crossings are to be provided across Whites Road, one near the Ōhoka Stream and the other near the commercial area.

The road classification shall deliver an accessible and coherent neighbourhood that provides safe and efficient access to the new development. The movement network for the area shall integrate into the existing and proposed pedestrian and cycle network beyond the ODP area. A 2.5m wide shared path is proposed with the Landscape Treatment Area A along Whites Road and Bradleys Road. Wherever possible, other bicycle and pedestrian routes shall be integrated into the green network within the ODP area. Cycling and walking shall otherwise be provided for within the road reserve and incorporated into the road design of the overall road network where applicable. Adequate space must be provided to accommodate bicycles and to facilitate safe and convenient pedestrian movements. The management, design and/or treatment of roads within the subdivision shall achieve an appropriately low-speed environment, accounting for the safety and efficiency of all road users.

Trees in the road reserve will assist in reducing the perceived width of the road corridors and provide a sense of scale. Further, the street trees will break up the roof lines of the denser areas and provide shade and texture. The trees may be located between carriageway and footpaths on larger roads, and closer to the carriageway on smaller roads. Swales will also assist in softening the road appearance, along with providing stormwater treatment. Aside from the functional aspects, the different street environments will significantly contribute to differentiating the ODP area from the typical suburban character found in the main centres of the District.

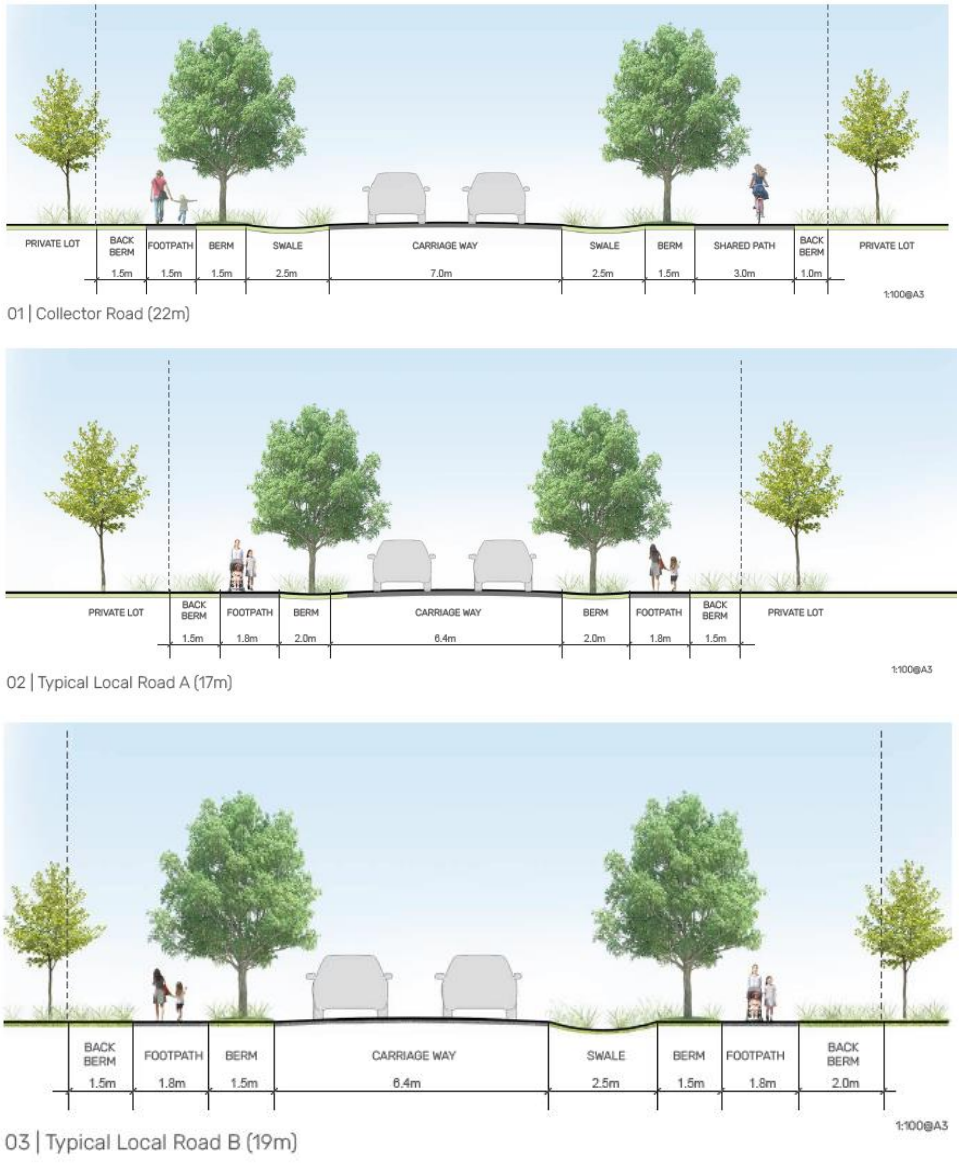

Figure 1: Indicative road cross-sections

The ODP provides road links to Mill Road, Bradleys Road and Whites Road. These intersections will be priority-controlled with priority given to the external road network. Direct vehicular access to private properties can be provided to Mill Road . Otherwise, no direct vehicular access to Bradleys Road and Whites Road is provided.

Consideration shall be given to whether the development warrants minor works to carriageways and roadside hazards, including roadside signage and/or line markings, on Whites and Bradleys roads (on the stretches between Tram Road to Mill Road), Mill Road

(where impacted by the development) and Threlkelds Road. Further, consideration shall be given to whether and what (if any) interim safety improvements are required at the Tram Road / Whites Road intersection. Examples of the types of improvements that may be required include visibility splay / sightline improvements, improved signage on the approaches, and/or Rural Intersection Activated Warning Signs. Any required improvements shall be implemented prior to occupation of dwellings and commercial buildings.

Water and Wastewater Network

Water reticulation is to be provided by the establishment of a new community drinking water scheme. A site of approximately 1,000m² will be provided within the development for water supply headworks infrastructure including treatment plant, storage reservoirs and reticulation pumps. Fire-fighting flows to FW2 standards will be provided for Residential 2 and business-zoned properties. Hydrants will be provided for emergency requirements within the large lot property areas, zoned Residential 4A, in a similar manner to the neighbouring Mandeville and Ōhoka areas.

Wastewater will be reticulated to the Rangiora Wastewater Treatment Plant either via gravity reticulation or a local pressure sewer network or a combination of both. A new rising main connecting the development to the treatment plant is likely to be required.

Open Space, Recreation and Stormwater Management

The green network combines the open space, recreational reserves including pedestrian connections, and stormwater management throughout the ODP area. The green network largely follows waterways and provides access to open space for all future residents within a short walking distance of their homes. Pedestrian and cycle paths will integrate into the green network to ensure a high level of connectivity is achieved, and to maximise the utility of the public space.

Detailed stormwater solutions shall be determined by the developer at subdivision stage and in accordance with Environment Canterbury requirements. Stormwater management facilities shall be designed to integrate into both the movement and open space networks where practicable. Groundwater monitoring will assist in the design of the stormwater management facilities.

The stormwater solutions shall be cognisant of a 26-hectare area adjacent the Whites Road boundary that cannot be attenuated. The stormwater solutions for development of the site shall demonstrate hydraulic neutrality up to the 50-year event. If neutrality cannot be achieved, the density of development within the 26-hectare area may need to be reduced.

The proposed green and blue network provides an opportunity to create ecological corridors. Plant species in the new reserves and riparian margins shall include native tree and shrub plantings. The plant species selection process shall involve consultation with local Rūnanga. The green network will ensure that dwellings are setback an appropriate distance from waterbodies.

Supporting reductions in greenhouse gas emissions

To support reducing greenhouse gas emissions, district plan rules require additional tree planting on all residential properties and at least 15% of site area to be planted in native vegetation on larger properties. Further, all dwellings shall be required to be electric vehicle charging ready. This is to be enforced through developer covenants.

Character and amenity through landscape and design

The character of Ōhoka is strongly reliant on landscaping, in particular trees, in both public and private environments. The landscape treatment of the waterway margins may include large specimen trees, but will mostly be comprised of planted natives. Space for street trees is to be provided on both sides of all road types and are to be placed strategically to create an organic street scene avoiding a typical suburban street appearance. Additional tree planting is required on private properties via district plan rules.

An overall planting strategy is to be developed for the ODP site at subdivision consent stage.

Specific measures to protect and enhance landscape values will be addressed at the time of subdivision, and development within the ODP area shall include:

a. An assessment by a suitably qualified and experienced arborist, guided by a suitably qualified terrestrial ecologist, that:

    i. Identifies trees that are to be retained and integrated into the development

    ii. Specifies protection measures during construction to ensure survival of selected trees

To further support the distinct village character of Ōhoka, street furniture, lighting and all other structures in the public realm are to reflect the rural characteristics with regard to design, type, scale, material and colour. In particular, street lighting shall be specified to minimise light spill and protect the dark night sky. These can be considered as part of the development controls and design guidelines mentioned previously.

Landscape Treatment A

Landscape Treatment A shall be designed to assist in retaining a rural character along Whites and Bradley Roads and to screen development from public and private vantage points outside the ODP area. It shall consist of a 1.5-metre-wide grass strip at the site boundary with an adjoining 2.5-metre-wide gravel path and a 10-metre-wide native vegetation strip in the location identified on the ODP and include a post and rail fence or post and wire fence on the road side of the vegetation. Solid fencing within this strip is not permitted. This is combined with a 20m building setback, consistent with setbacks required in the rural zone.

The planting is to consist of the following species, or similar, planted at 1000mm centres to achieve a minimum height of 5m once established:

- *Griselinia littoralis*, Broadleaf;
- *Cordyline australis,* Ti kouka;
- *Pittosporum tenufolium*, Kohuhu;
- *Podocarpus totara*, Totara;
- *Phormium tenax,* Flax;
- *Dacrycarpus dacrydioides,* Kahikatea;
- *Sophora microphylla,* SI Kowhai;
- Korokia species; and
- *Cortaderia richardii,* SI Toetoe.

Landscape Treatment B

Landscape Treatment B, as indicated on the ODP, shall be designed to provide a visual buffer between the ODP site and adjacent rural land to the southwest. The treatment shall

consist of retention of the existing shelter belts running along the southern boundary of the ODP site and planting a 6m wide landscape strip consisting of either (or a mix of) the following trees, or similar, to achieve a minimum height of 5m with trees at a maximum spacing of 2000mm:

- *Pinus radiata*, Pine;
- *Cupressus Arizonia*, Arizona cypress;
- *Chaemaecyparis lawsoniana*, Lawson's Cypress;
- *Populus nigra,* Lombardy Poplar;
- *Podocarpus totara*, Totara (native);
- *Pittosporum eugenioides*, Tarata (native);
- *Phormium tenax,* Flax;
- *Prunus lusitanica,* Portuguese laurel; and
- *Griselinia littoralis*, Kapuka / Broadleaf (native).

Landscape Treatment C

Landscape Treatment C is proposed to be located toward the northern extent of the ODP area and act as a buffer between the ODP area and the existing Ōhoka Village properties on the southern side of Mill Road. The treatment shall be a planted single row ~~Planting is to~~ consisting of one of the below species ~~a single row of *Prunus lusitanica* (Portuguese Laurel)~~, or similar, along the shared internal boundaries to achieve a minimum established height of 4m and a width of 2m, planted at a maximum spacing of 1500mm (within a 6m wide strip). This relates to the internal boundaries of 290 and 344 Bradleys Road; 507, 531 and 547 Mill Road; and 401 Whites Road.

- *Prunus lusitanica (Portuguese Laurel*
- *Pittosporum eugenioides (Tarata, Lemonwood)*
- *Pittosporum tenuifolium (Kohuhu, Black Matipo)*
- *Griselinia littoralis (Broadleaf)*
- *Kunzea ericoides (Kanuka)*
- *Leptospermum scoparium (Maunka)*

Approval, Implementation and Maintenance

All proposed planting within Landscape Treatments A, B and C and the green and blue networks will be is subject to Council approval. A landscape management plan shall be developed to ensure a successful outcome and provided for approval at Engineering Approval Stage. The plan will provide direction on the establishment of planting, weed and pest control, replacement planting, irrigation and maintenance. The landscape maintenance period shall extend for five years following implementation.

The National Grid

The National Grid Islington – Southbrook A (ISL-SBK-A) 66kV transmission line traverses the site. The line starts at the Islington Substation in Christchurch and extends through the Christchurch, Waimakariri and Hurunui districts. The following matters will assist in ensuring the ability for Transpower to operate, maintain, upgrade and develop the National Grid is not compromised by future subdivision and land use.

Consultation

Transpower shall be consulted as part of any application for subdivision consent affecting the National Grid. Evidence of this consultation shall be provided to Council as part of any subdivision consent application.

Planting and maintenance of landscaping beneath the National Grid

Any landscaping in the vicinity of the National Grid shall be designed and implemented to achieve compliance with the New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001) and the Electricity (Hazards from Trees) Regulations 2003, including when planting reaches maturity.

Water Bodies and Freshwater Ecosystems

The ODP area contains several waterbodies with varying characteristics. Development of the ODP area provides potential for higher ecological values to be re-established through restoration and enhancement. This could include protected reserve space, native planting, naturalisation, and instream enhancement. Development shall protect and enhance selected water bodies and freshwater ecosystems within the ODP area and incorporate these features into the wider green and blue network of the site.

In terms of specific measures to be addressed at the time of subdivision in order to protect and enhance freshwater values and ecosystems, development within the ODP area shall:

a. Include an assessment by a suitably qualified and experienced practitioner that:

   i. Provides the results of ~~detailed~~ groundwater and spring water level and spring flow monitoring ~~and spring flow investigations~~ across the site to inform the construction methodologies that are applied in different parts of the site; and

   ii. Specifies construction measures to ensure ~~appropriate management of~~ that shallow groundwater is not diverted away from its natural flow path for those areas where the shallow groundwater (in water bearing seems or layers) is likely to be intercepted by service trenches and hardfill areas.

b. Be in accordance with an Ecological Management Plan prepared by a suitably qualified and experienced practitioner that, as a minimum, includes:

   i. Plans specifying spring head restoration, riparian management, waterway crossing management, and segregation of spring water and untreated stormwater.

   ii. Aquatic buffer distances, including minimum waterbody setbacks for earthworks and buildings of:

      - 30 metres from the large central springhead and Northern Spring head identified on the ODP.
      - 20 metres from the Ōhoka Stream , ~~Northern Spring head,~~ and Groundwater Seep origin.
      - 15 metres from Northern and Southern Spring Channel and South Ōhoka Branch.
      - 10 metres from the Groundwater Seep channel.

- 5 metres from the South Boundary Drain along the furthermost southwest boundary of the ODP area.

Any additionally identified springs shall be assessed to determine the appropriate aquatic buffer distance.

iii. Ongoing maintenance and monitoring requirements that are to be implemented, including groundwater level, spring water level and spring flow monitoring.

c. Maintain the perennial course of the lower Southern Spring Channel.

d. Possible re-alignment of the Northern Spring Channel baseflow into the Southern Spring Channel downstream of the spring-fed ponds. Both channels are perennial and could be meandered and naturalised.

e. Possible meandering and naturalisation of the Groundwater Seep.

f. Riparian planting plans with a focus on promotion of naturalised ecological conditions, including species composition, maintenance schedules, and pest and predator controls.

g. Stream ecology monitoring (i.e., fish, invertebrates, instream plants and deposited sediment surveys).

The aquatic buffers shall be protected by appropriate instruments (whether that be esplanade reserves/strips, recreation reserves or consent notice condition imposed setbacks) at the subdivision consent stage. Further, landscape design drawings of stream setbacks are to include input and approval from a qualified freshwater ecologist, with a minimum of the first 7 metres of the spring and stream setbacks to be reserved for riparian vegetation only, with no impervious structures and pathways as far as practicable away from the waterway.

Cultural

The importance of natural surface waterbodies and springs to Manawhenua is recognised and provided for by the ODP and the specific measures described above in respect of waterbodies and freshwater ecosystems that will support cultural values associated with the ODP area. The Ngāi Tahu Subdivision and Development Guidelines shall be referred to throughout the subdivision design process with guidance adopted where practical/applicable.

For all earthworks across the site, an Accidental Discovery Protocol will be implemented at the time of site development, in addition to appropriate erosion and sediment controls, to assist in mitigating against the potential effects on wahi tapu and wahi taonga values generally.

Detailed Site Investigation

Due to the previous agricultural land use including the storage and spreading of dairy effluent, a Detailed Site Investigation shall be carried out at subdivision consent stage. This investigation will identify what (if any) remediation is required to satisfy the requirements of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

ATTACHMENT 2: AMENDED PLAN PROVISIONS

The plan change request proposes the following changes to the Waimakariri District Plan:

1. To amend the Waimakariri District Plan Planning Maps, by rezoning the site to Residential 2, Residential 4A and Business 4.

2. To amend Waimakariri District Plan Planning Maps, by inserting the Outline Development Plan included attached in **Attachment E**.

3. To amend the District Plan provisions as below (changes underlined or struck through, with changes made in response to the section 42a report emphasised in red text, changes made in response to the 2 August s42A memorandum in orange text, and changes made via supplementary evidence in purple text.

4. Any other consequential amendments including but not limited to renumbering of clauses.

Please note that all references to the originally proposed Residential 3 and 8 Zones have been removed.

Objectives and Policy

Definitions

INSERT NEW DEFINITION

Educational facilities

means land or buildings used for teaching or training by childcare services, schools, or tertiary education services, including any ancillary activities.

16 Business Zones

AMEND POLICY

Policy 16.1.1.1

…

Reason

…

The Business 4 Zone provides for activities existing at 20 June 1998, and limited future expansion of retail and business activities with similar effects on the southwestern corner of Williams and Carew Streets in Kaiapoi (District Plan Maps 104 and 105), and the Lilybrook Shops on the corner of Percival Street and Johns Road, Rangiora (District Plan Maps 113 and 117). This zoning recognises the commercial zoning that these sites enjoyed under the Transitional District Plan. The Business 4 Zone also provides for a local community business zones at West Kaiapoi (District Plan Map 104), ~~and~~ within the Mandeville North settlement (District Plan Map 182) and at Ōhoka (District Planning Map 185).

INSERT NEW POLICY

Policy 16.1.1.12

Provide for retail and business activities in the Ōhoka Business 4 Zone, in a way that:

a) *maintains the characteristics of the Ōhoka settlement as set out in Policy 18.1.1.9;*

b) *provides for limited business activities to provide for day-to-day convenience needs of the local community, is designed to achieve high quality urban design principles and a high standard of visual character and amenity; and*

c) *limits retail distribution effects on the nearby Business 4 Zone at Mandeville North.*

AMEND

Principal Reasons For Adopting Objectives, Policies and Methods 16.1.4

…

The Business 4 Zone enables site-specific areas of existing retail and business activity located outside of the Kaiapoi and Rangiora town centres. The effects of activities are known for those already developed, including those impacting on adjoining residential areas. Activity and development standards constrain the scale and nature of possible future effects. A specific policy and rule framework exists for the Business 4 Zone in West Kaiapoi, ~~and the Business 4 Zone in~~ Mandeville North and Ōhoka to ensure suitable scale and characteristics of any development within the zone and with regard to Mandeville North to recognise community desires.

18. Constraints on Subdivision and Development

AMEND POLICY

Policy 18.1.1.9

Ensure that any growth and development of Ōhoka settlement occurs in a manner that:

- *maintains a rural village character comprising a predominantly low density living environment with dwellings in generous settings;*

- *achieves, as far as practicable, a consolidated urban form generally centred around and close to the existing Ōhoka settlement;*

- *encourages connectivity with the existing village and community facilities;*

- *achieves quality urban form and function;*

- *allows opportunities for a rural outlook;*

- *encourages the retention and establishment of large-scale tree plantings and the use of rural style roads and fencing;*

- *limits the potential for reverse sensitivity effects;*

- *avoids significant flood hazards;*

- *promotes the efficient and cost-effective provision and operation of infrastructure;*

- *recognises the low lying nature of the area and the need to provide for stormwater drainage; and*

- *ensures that any residential development occurring in the Ōhoka settlement does not increase the flood risk within Ōhoka and adjoining areas.*

Explanation

Growth of Ōhoka settlement, defined by the Residential 2, ~~3,~~ 4A and 4B zones, is constrained by the need to ensure that any future residential development maintains its rural village character. This is most likely to be achieved by consolidating growth around or adjacent to the existing urban area and ensuring that development complements the existing low density rural residential environment. A consolidated growth pattern will provide opportunities for establishing connections with the existing settlement and community facilities, including the Ōhoka School. This form of development is also anticipated to promote the efficient provision of reticulated water and wastewater infrastructure and reduce the potential for reverse sensitivity effects on surrounding rural activities.

It is important that any further rural residential development occurs in a way, and to an extent, that does not overwhelm the special semi-rural character of the settlement.

It is expected that the type of growth and development required to maintain the rural village character of Ōhoka is that of low density living, where larger allotments ~~dwellings are situated within generous settings comprising an average lot size of between 0.5 – 1.0 hectare~~ surround smaller properties which form a walkable community around the village centre. The presence of rural village attributes within ~~such~~ the low density residential areas, including the retention and establishment of large-scale tree plantings and the use of rural style roads and fencing, will also assist in maintaining the settlement's rural themed characteristics. This type of settlement pattern is anticipated to generate a high level of amenity, including opportunities for a range of lifestyle living activities and an aesthetic rural outlook. This can be achieved either by enabling views into open green space or by the establishment of treed vegetation areas within or adjoining properties.

Another development constraint for growth at Ōhoka is the need to avoid land subject to significant flood risk. It will therefore be necessary for any proposed development to demonstrate that the land is suitable for its intended use and is not subject to undue risk of inundation. This includes the impact of cumulative effects on the area's drainage systems.

INSERT POLICY

Policy 18.1.1.9A

Provide for activities that support the Ōhoka settlement including educational facilities, a retirement village and a polo field and associated facilities.

Rules

27 Natural Hazards

INSERT RULE

27.1.1.34 Within the Outline Development Plan area shown on District Plan Map 185, any dwellinghouse shall have a floor level of 400mm above the 0.5% Annual Exceedance Probability flood event except within areas subject to Medium Flood Hazard where the floor level shall be 500mm above 0.5% Annual Exceedance Probability flood event.

30 Utilities and Traffic Management

PROPOSED AMENDMENTS TO RULES 30.1.1.9 AND 30.1.6.1.1. REMOVED.

31. Health, Safety and Wellbeing

Dwellinghouses

PROPOSED AMENDMENTS TO RULES 31.1.1.4 AND 31.1.1.6 REMOVED.

INSERT RULE

31.1.1.9A In the Residential 2 and 4A Zones, Ōhoka shown on District Plan Map 185, dwellinghouses shall be in accordance with any relevant Council approved design guidelines.

Structure Coverage

AMEND RULE

31.1.1.10 The structure coverage of the net area of any site shall not exceed:

…

n) 55% in Business 4 Zone in Ōhoka as shown on the District Plan Map 185

Setbacks For Structures

PROPOSED RULE 31.1.15A REMOVED

AMEND TABLE

Table 31.1: Minimum Structure Setback Requirements

Location	A setback is required from	Setback depth (minimum)
Rural Zone	Any road boundary	20m for any dwellinghouse 10m for any structure other than a dwellinghouse
	Any internal site boundary	20m for any dwellinghouse 3m for any structure other than a dwellinghouse
	Any existing dwellinghouse on an adjoining site	10m for any structure (excluding a dwellinghouse)
Rural Zone Maori Reserve 873 cluster housing	Any road boundary, any site boundary external to the cluster, and any existing dwellinghouse on an adjoining site	15m
All Residential Zones other than the Residential 4A Zone (Wards Road, Mandeville North and Mill Road, Ōhoka), Residential 6A and 7, the Residential 4A Zone (Bradleys Road, Ōhoka) and the Mandeville Road – Tram Road Mandeville North Residential 4A Zone, and the Residential 4A Zone (Woodend Beach Road, Woodend)	Any road boundary (other than a boundary to a strategic road or arterial road) or any accessway	2m
	The zone boundary within Tuahiwi at the northern, eastern and southern extent as	

(excluding any comprehensive residential development) NOTE: See Rule 31.1.1.15	shown on District Plan Map 176B	15m
Comprehensive residential development within Residential 1, 2 and 6 Zones	The road boundary	2 m for any dwellinghouse 4 m for any garage where the vehicle entrance is generally at a right angle to the road. 5.5 m for a garage where the vehicle entrance faces the road, and the garage must not be located closer to the road boundary than the front façade of the associated dwellinghouse
Residential 4A Zone (Bradleys Road, Ōhoka) shown on District Plan Map 169 and the Mandeville Road – Tram Road Mandeville North Residential 4A Zone shown on District Plan Map 182	Any road boundary Any internal site boundary	15m 5m
Residential 4A Zone (Wards Road, Mandeville North) shown on District Plan Map 162, Residential 4A Zone (Mill Road, Ōhoka) shown on District Plan Map 160 and Woodend Beach Road	Any boundary from a local road	10m

shown on District Plan Map 171)		
Residential 4A Zone (Mill Road, Ōhoka) shown on District Plan Map 160	Mill Road boundary Any internal site boundary	15m 5m
All Residential Zones, other than Residential 6, 6A and 7, where the site fronts onto a strategic or arterial road	The road boundary of any strategic or arterial road	6m, or 4m for any garage where the vehicle entrance is generally at right angles to the road
Residential 5 Zone	Any site boundary adjoining an accessway for allotments 15, 16, 17, 27, 28 and 29 shown on District Plan Map 140	4m
Residential 6A Zone (other than areas identified on District Plan Map 142 as excluded from the setback requirement)	Any internal site boundary, other than boundaries with accessways	2m for any structure other than garages and structures above garages
Residential 6A	Boundaries with accessways	10m for any structure other than a garage and structures above garages NOTE: Refer to Figure 31.1 and Rule 31.1.1.16

Residential 7	Any road boundary (other than to an arterial road) or any accessway The road boundary of any arterial road Any internal site boundary Any site boundary of 309 Island Road being Lot 1 DP 62400	2m for any dwellinghouse within Area A 3m for any dwellinghouse within Areas B and C 5.5m for any structure other than a dwellinghouse within Areas A, B and C 6m 2m 20m
Business 2, 3 and 6 Zones, where the site fronts onto a strategic or arterial road	The road boundary of any strategic or arterial road	10m
Business 2, 3, 5 and 6 Zones, and Woodend Business 1 Zone where the site is adjacent to a Residential Zone or a Rural Zone boundary	The zone boundary, or where the zone boundary is a road, the road boundary	10m

Business 4: Williams/Carew Zone and Business 4: Mandeville North	Any road boundary	6m
	Any internal site boundary	5m
Business 5 Zone at Kaiapoi	The zone boundary, the Smith Street boundary, and any site boundary adjoining a reserve	10m
All Zones	All 110kV overhead high voltage electrical lines as shown on District Plan Maps	32 metres either side of the centreline
	All 220kV and 350kV overhead high voltage electrical lines as shown on District Plan Maps where the span length is less than 375 metres	32 metres either side of the centreline
	All 220kV overhead high voltage electrical lines as shown on District Plan Maps where the span length is 375 metres or greater	
	All 350kV overhead high voltage electrical lines as shown on the District Plan Maps where the span length is greater than 375 metres	37 metres either side of the centreline

		39 metres either side of the centreline
Residential 4A Zone (Ōhoka) shown on District Plan Map 185	Any road boundary Any internal site boundary	10m 5m
Business 4 (Ōhoka) shown on District Plan Map 185	Any residential zone	3m

Structure Height

PROPOSED AMENDMENTS TO RULE 31.1.1.24 REMOVED.

AMEND RULE

31.1.1.35 Any structure in the ~~Mandeville North~~ Business 4 Zone at Mandeville North or Ōhoka shall not exceed a height of 8 metres.

Screening and Landscaping

AMEND RULE

31.1.1.39 Where a site within any Business Zone, other than the Business 4 – West Kaiapoi Zone and Business 4 Zone at Ōhoka, shares a boundary with any Residential Zone, the site shall be screened from the adjoining Residential Zone site(s) to a minimum height of 1.8m except where a lesser height is required in order to comply with Rule 30.6.1.24, for unobstructed sight distances.

AMEND RULE

31.1.1.50 Within the Residential 4A Zone, Bradleys Road, Ōhoka identified on District Plan Map 169 and the Residential 4A Zone, Ōhoka identified on District Plan Map 185 any fences/walls within any boundary setback shall be:

a) limited to a maximum height of 1.2m and a minimum height of 0.6m; and

b) limited to traditional post and wire or post and rail fences, and be at least 50% open; and

c) *of a length equal to or greater than 80% of the length of the front boundary.*

INSERT NEW RULE

31.1.1.50A Within the Residential 2 Zone, Ōhoka identified on District Plan Map 185, fencing/walls shall be in accordance with any relevant Council approved design guidelines.

AMEND RULE

31.1.1.53 Within the Residential 2 and 4A zones shown on District Plan Map 185, landscaping for all residential properties (excluding retirement village activities) shall provide a minimum of:

a) one tree within the road boundary setback for every 15 metres of road frontage (or part thereof) and;

b) one additional tree elsewhere on the property for every 400m^2 of site area (or part thereof);

c) all trees shall be not less than 1.5 metres high at the time of planting;

d) all trees and landscaping required by this rule shall be maintained and if dead, diseased or damaged, shall be replaced; and

e) for all allotments greater than 2,500m^2 in area, no less than 15% of the site shall be planted in native vegetation.

PROPOSED RULE 31.1.1.54 REMOVED.

INSERT NEW RULE

Land use near the National Grid – Residential 4A (Ōhoka)

31.1.1.67 Within the Residential 4A Zone (Ōhoka) identified on District Plan Map 185, any structure located within 12 metres from the outer visible edge of a foundation of a National Grid support structure or located within 10 metres of the centre line of an overhead 66kV National Grid transmission line shall comply with the following:

a) The structure is not a school, dwellinghouse or hospital.

b) The structure complies with NZECP 34:2001 and is:

i. a network utility;

ii. a fence not exceeding 2.5m in height; or

iii. a non-habitable building used for agricultural or horticultural activities other than a milking/dairy shed, a wintering barn, a building for intensive farming activities, a commercial greenhouse or produce packing facility.

c) The structure permitted under Rule 31.1.1.67.a must:

i. not be used for the handling or storage of hazardous substances with explosive or flammable intrinsic properties in greater than domestic scale quantities;

ii. not permanently obstruct vehicle access to a National Grid support structure;

iii. be located at least 12 metres from the outer visible edge of a foundation of a National Grid support structure, except where it is a fence located at least 6 metres from the outer visible edge of a foundation of a National Grid support structure.

31.2 Controlled Activities

PROPOSED AMENDMENT TO RULE 31.2.2 REMOVED.

PROPOSED RULE 31.2.3 REMOVED.

31.3 Discretionary Activities (Restricted)

INSERT RULE

31.3.9 A retirement village, in the Residential 2 Zone as shown on District Plan Map 185 that meets all applicable conditions for permitted activities under Rule 31.1 shall be a restricted discretionary activity.

In considering any application for a resource consent under Rule 31.3.9 the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the following matters:

a) Whether the development, while bringing change to existing environments, is appropriate to its context, taking into account:

i. Context and character:

The extent to which the design, including landscaping, of the village is in keeping with, or complements, the scale and character of development anticipated for the surrounding area and relevant significant natural, heritage and cultural features.

ii. Relationship to the street, public open spaces and neighbours:

Whether the village

- *engages with and contributes to adjacent streets and any other adjacent public open spaces to contribute to them being safe and attractive, and*
- *avoids unacceptable loss of privacy on adjoining residential properties.*

iii. Built form and appearance:

The extent to which the village is designed to minimise the visual bulk of the buildings and provide visual interest, and consistency with any relevant Council approved design guidelines.

iv. Access, parking and servicing:

The extent to which the village provides for good access and integration of space for parking and servicing particularly to cater for the safety of elderly, disabled or mobility-impaired persons.

v. Safety:

The extent to which the village incorporate CPTED principles to achieve a safe, secure environment.

vi. Stormwater

The adequacy of proposed stormwater management within the site.

vii. Sustainability measures

The extent to which, where practicable, incorporation of environmental efficiency measures in the design, including passive solar design principles that provide for adequate levels of internal natural light and ventilation.

Any application arising from this rule shall not be publicly notified.

INSERT NEW RULE

31.3.10 Educational facilities in the Residential 2 Zone within the educational facilities overlay as shown on District Plan Map 185 that meets all applicable conditions for permitted activities under Rule 31.1, and where no more than 250 students are enrolled shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 31.3.10, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the following matters:

a) Whether the development, while bringing change to existing environments, is appropriate to its context, taking into account:

i. Context and character:

The extent to which the design of the educational facility is in keeping with, or complements, the scale and character of development anticipated for the surrounding area and relevant significant natural, heritage and cultural features.

ii. Relationship to the street and public open spaces:

Whether the educational facilities engage with and contribute to adjacent streets, and any other adjacent public open spaces to contribute to them being safe and attractive.

iii. Built form and appearance:

The extent to which the educational facilities are designed to minimise the visual bulk of the buildings and provide visual interest.

iv. Access, parking and servicing:

The extent to which the educational facilities provide for good access and integration of space for parking and servicing.

v. Safety:

The extent to which the educational facilities incorporate CPTED principles to achieve a safe, secure environment.

vi. Stormwater

The adequacy of proposed stormwater management within the site.

vii. Sustainability measures

The extent to which, where practicable, incorporation of environmental efficiency measures in the design, including passive solar design principles that provide for adequate levels of internal natural light and ventilation.

Any application arising from this rule shall not be publicly notified.

INSERT NEW RULE

31.2.11 A polo field and associated facilities in the Residential 2 Zone within the polo facilities overlay as shown on District Plan Map 185 where:

a) structures so not exceed a height of 8m, and

b) structures are set back no less than 10m from any residential site

shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 31.2.11, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the following matters:

a) Whether the development, while bringing change to existing environments, is appropriate to its context, taking into account:

i) landscape planting consistent with the rural village character of the Ōhoka settlement and to assist the integration of the proposed development within the site and neighbourhood.

ii. the location and design of vehicle and pedestrian access and on-site manoeuvring.

iii. creation of visual quality and variety through the separation of buildings and in the use of architectural design, detailing, glazing, materials, colour and landscaping.

viii consistency with any relevant Council approved design guidelines.

viii. where practicable, incorporation of environmental efficiency measures in the design, including passive solar design principles that provide for adequate levels of internal natural light and ventilation.

ix. the proposed stormwater management within the site

Any application arising from this rule shall not be publicly notified.

PROPOSED RULE 31.2.12 SHIFTED TO SUBDIVISION

31.1.4 Discretionary Activities

INSERT NEW RULE

31.4.5 A retirement village, in the Residential 2 Zone as shown on District Plan Map 185 that does not meet all applicable conditions for permitted activities under Rule 31.1 shall be a discretionary activity.

INSERT NEW RULE

31.4.6 Educational facilities in the Residential 2 Zone within the educational facilities overlay as shown on District Plan Map 185 that does not meet all applicable conditions for permitted activities under Rule 31.1, or/and where more than 250 students are enrolled shall be a discretionary activity.

INSERT NEW RULE

31.4.7 A polo field and associated facilities in the Residential 2 Zone within the polo facilities overlay as shown on District Plan Map 185 that does not meet the conditions under Rule 31.3.11 shall be a discretionary activity.

INSERT NEW RULE

31.4.8 Any land use which does not comply with Rules 31.1.1.9A and 31.1.1.50A shall be a discretionary activity.

31.5 Non-complying Activities

PROPOSED RULE 31.5.10 REMOVED

INSERT NEW RULE

31.5.10 Any land use that does not comply with Rules 31.1.1.67 is a non-complying activity.

Retail Activities and Traffic Matters

31.26 Discretionary Activities

INSERT NEW RULE

31.26.4 Retail activity exceeding a total of 2,700m^2 Gross Floor Area within the Business 4 Zones, Ōhoka shown on District Plan Map 185 except any retail activity associated with a farmers market.

32. Subdivision

32.1.1 Standards and Terms

Allotment Areas and Dimensions

PROPOSED AMENDMENT TO TABLE REMOVED

Residential 4A Zone

AMEND RULE

32.1.1.11 The minimum area for any allotment created by subdivision in any Residential 4A Zone shall be 2500m^2. The average area of all allotments in any Residential 4A Zone shall not be less than 5000m^2 except within the Residential 4A Zone (Ōhoka) identified on District Plan Map 185 where the average area of all allotments shall not be more than 3300m^2. Any allotment over 1ha in area is deemed to be 1ha for the purposes of this rule.

Outline Development Plans

AMEND RULE

32.1.1.28 Subdivision within the following areas shall generally comply with the Outline Development Plan for that area.

…

ak) The Residential 2 and 4A Zones and Business 4 Zone (Ōhoka) identified on District Plan Map 185 including the associated Outline Development Plan text.

32.2 Discretionary Activities (Restricted)

INSERT NEW RULE

National Grid – Residential 4A (Ōhoka)

32.2.16 Within the Residential 4A Zone (Ōhoka) identified on District Plan Map 185, any subdivision of land located within 32 metres of the centre line of an overhead 66kV National Grid transmission line is a restricted discretionary activity where a building platform is identified on the subdivision plan that is located more than 12 metres from the outer from the outer visible edge of a foundation of a National Grid support structure and more than 10 metres from the centre line of an overhead 66kV transmission line, to be secured by way of a consent notice.

In considering any application for a resource consent under Rule 32.2.16 the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of its discretion to the following matters:

i. The extent to which the subdivision allows for earthworks, buildings and structures to comply with the safe distance requirements of the NZECP 34:2001 New Zealand Electricity Code of Practice for Electricity Safe Distances.

ii. The provision for the ongoing efficient operation, maintenance, development and upgrade of the National Grid, including the ability for continued reasonable access to existing transmission lines for maintenance, inspections and upgrading.

iii. The extent to which potential adverse effects (including visual and reverse sensitivity effects) are mitigated through the location of an identified building platform or platforms.

iv The extent to which the design and construction of the subdivision allows for activities to be set back from the National Grid, including the ability to ensure adverse effects on, and from, the National Grid and on public safety and property are appropriately avoided, remedied or mitigated, for example, through the location of roads and reserves under the transmission lines.

v. The nature and location of any proposed vegetation to be planted in the vicinity of the National Grid.

vi. The outcome of any consultation with Transpower New Zealand Limited.

vii. The extent to which the subdivision plan clearly identifies the National Grid and identified building platform or platforms.

INSERT NEW RULE (PREVIOUSLY RULE 31.2.12)

32.2.17 In the Residential 2 and 4A Zones, Ōhoka shown on District Plan Map 185, subdivision of more than 250 residential allotments (cumulatively) shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 32.2.17, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the effects on the safety and efficiency of the Tram Road / State Highway 1 interchange.

Any application arising from this rule shall not be publicly notified but shall be limited notified to Waka Kotahi – New Zealand Transport Agency absent its written approval.

INSERT NEW RULE

32.2.18 In the Residential 2 and 4A Zones, Ōhoka shown on District Plan Map 185, any subdivision of land shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 32.2.18, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the outcome of a traffic assessment undertaken in consultation with the District Council to determine what upgrades (if any) are required in respect of either the Mill Road / Ohoka Road intersection or the Flaxton Road / Threlkelds Road and Mill Road / Threlkelds Road intersections prior to the issue of a completion certificate under section 224 of the Act.

Any application arising from this rule shall not be limited or publicly notified.

INSERT NEW RULE

32.2.19 In the Residential 2 and 4A Zones, Ōhoka shown on District Plan Map 185, subdivision of more than 250 residential allotments (cumulatively) shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 32.2.19, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the outcome of a traffic assessment undertaken in consultation with the District Council to determine what upgrades (if any) are required in respect of the Tram Road / Whites Road intersection prior to the issue of a completion certificate under section 224 of the Act.

Any application arising from this rule shall not be limited or publicly notified.

INSERT NEW RULE

32.2.20 In the Residential 2 and 4A Zones, Ōhoka shown on District Plan Map 185, subdivision of more than 450 residential allotments (cumulatively) shall be a restricted discretionary activity.

In considering any application for resource consent under Rule 32.2.20, the Council shall, in deciding whether to grant or refuse consent, and in deciding whether to impose conditions, restrict the exercise of discretion to the traffic safety and efficiency effects in respect of the Bradleys Road / Tram Road intersection. This rule shall not apply if a roundabout has been constructed at this intersection.

Any application arising from this rule shall not be limited or publicly notified.

32.3 Discretionary Activities

INSERT NEW RULE

32.3.7 Any subdivision that does not comply with Rule 32.1.1.28.ak is a discretionary activity.

32.4 Non-complying Activities

INSERT NEW RULE

32.4.14 Any subdivision of land within the Residential 4A Zone (Ōhoka) identified on District Plan Map 185 that does not comply with Rule 32.2.16 is a non-complying activity.

ATTACHMENT 3: TRANSPORT CONFERENCING ADVICE

5 September 2023

Novo Group Limited
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MEMO

TO: Tim Walsh, Novo Group

FROM: Nick Fuller, Principal Transport Engineer

PROJECT REF: 021034

OHOKA: TRANSPORT CONFERENCING STATEMENT

1. Further to the Joint Witness Statement regarding transport for the Ohoka Plan Change 31 site, this memo provides background regarding some of the matters that were not discussed at the conferencing.

2. Paragraph 3 of the Joint Witness Statement sets out six points that were not discussed within the conferencing. This memo provides additional context for points *d* to *f*, should this assist in providing an assessment framework for these matters in the Plan Change. These matters are as follows and discussed in further detail below:

   i. Upgrades to the SH1 / Tram Road interchange;

   ii. Upgrades to surrounding road connections to the roading network; and

   iii. Higher-speed peri-urban roading environment within the proposed development.

3. In addition to the above, this memo also provides some information as to what works would be required to achieve the 250 residential lot threshold and how achievable these works are.

Tram Road Interchange

4. The disagreement with regards to the operation of the Tram Road / State Highway 1 interchange is primarily with regard to the ability to accommodate the upgrade that I suggested within the existing bridge width. There is also concern that the modelling I undertook may not have satisfactorily assessed the operation of the proposed interchange.

5. I note that the Plan Change already includes an assessment matter for development of greater than 250 residential lots. This would require liaison with Waka Kotahi as to whether the operation of the interchange is predicted to be acceptable and / or agreement on the proposed upgrade.

Upgrades to the Surrounding Roading Network

6. I understand that this relates primarily to the surrounding road network where the majority of Plan Change traffic would travel to access the Arterial road network. This relates to:

i. Bradleys Road (between Tram Road and Mill Road);

ii. Whites Road (between Tram Road and Mill Road);

iii. Threlkelds Road; and

iv. Mill Road.

7. The extent to which this relates to Mill Road is reliant on whether a roundabout is constructed at the Threlkelds Road / Flaxton Road intersection. This is because provision of this roundabout (and the associated works at the Mill Road / Threlkelds Road intersection) would reduce the potential for traffic to travel on Mill Road between Threlkelds Road and Ohoka Road.

8. Further to the above, I also understand that this relates to the need to undertake what are anticipated to be 'minor' safety improvements. This would include improved road delineation and highlighting of roadside hazards. The extent of these improvements could be determined at subdivision stage through a mechanism for an assessment and implementation at that time.

Higher Speed Peri-Urban Roading Environment

9. This matter relates to the proposed roading environment *within* the Plan Change site. The concern raised in Mr Binder's evidence is that the rural nature of the proposed cross-sections combined with the urban frequency of driveways leads to a combination of higher speeds within the development and higher frequency of conflict points.

10. I understand that the proposed cross-sections and internal road arrangements are a matter that Council has discretion over at subdivision stage. Therefore, these matters can be resolved at the time of applying for subdivision of the site.

250 Residential Lot Works

11. Beyond 250 residential lots at PC31, a consent process is required that considers the safety and capacity of intersections in the vicinity that may require upgrades in response to traffic from PC31.

12. For up to 250 residential lots, the Joint Witness Statement identified that the following works are required:

i. **Safety management works at the Tram Road / Whites Road intersection.** I consider that these works are readily achievable, noting they are likely to be limited to works within the existing road corridor such as line marking, signage, or improvements to visibility splays (through trimming overhanging vegetation or relocating signs).

ii. Either:

(a) **a speed reduction at the Mill Road / Ohoka Road intersection,** which can be readily implemented but has uncertainty insofar that it first relies on approval of elected members of Council;

or

(b) **a roundabout at the Threlkelds Road / Flaxton Road intersection (and associated works at the Mill Road / Threlkelds Road intersection)**, which appears readily achievable based on space within the existing road reserve (to construct the Threlkelds/Flaxton roundabout and reconfigure the Threlkelds / Mill Road intersection).

iii. **Upgrades to the surrounding network as identified above** (in paragraph 6), which can readily occur within the width of the existing road reserve/corridors.

ATTACHMENT 4: DEVELOPMENT CAPACITY ANALYSIS

30 August 2023

MEMO

TO: Garry Sellars, Greg Akehurst, Tim Walsh

FROM: Chris Sexton, Civil Engineer, B.E.(Hons.), MEngNZ

Review of Formative WCGM22 Development Model

EXECUTIVE SUMMARY

The following memo summarises the findings from our review and validation of the household capacities set out in the WCGM22 model and relied on by Mr Yeoman in his response to Minute #5 on Plan Change 31 (PC31). That review has included desktop / GIS analysis of the WCGM22 and physical inspections of sites.

In summary, this analysis finds that actual capacity in the medium term is approximately 4361 households. This is 1573 households (26.5%) less than the 5934 households anticipated in the WCGM22, and translates into a 1239 household shortfall (rather than 350 surplus[1]) for the medium term. Whilst our analysis does not examine the long term, this shortfall and the inherent errors in the model described below will affect long term calculations of capacity, irrespective of reliance on potentially uncertain areas such as the Kaiapoi NDA.

This conclusion potentially underestimates the shortfall and/or supply, as described in further detail below. However, such variance is unlikely to materially alter the conclusion above that the WCGM22 model overstates household capacity.

METHODOLOGY

Our review of the WCGM22 has entailed desktop analysis and physical inspections of areas and sites in order to confirm or revise the assumed housing capacities, as follows:

Desktop Review

Firstly, GIS was used to identify any of the following areas that cannot be developed or intensified in a way that provides additional residential capacity:

- Recreation Reserve Lots
- Utility Reserve Lots
- Council Owned Facilities (i.e. water treatment plants)
- Parcels featuring heritage buildings or protected trees
- Parcels with community facilities (e.g. Pre-Schools/early learning centres, Churches/Places of Worship)
- Land covenants and/or encumbrances that prevent further subdivision or intensification
- Land where a dwelling or development had been completed therefore removing any potential future capacity in the medium term (e.g. individual homes, Kāinga Ora Multi Lot Developments, etc)

Secondly, the household capacity stated in the WCGM22 for new subdivisions in Greenfield areas was reviewed and validated, by either:

- Adopting yields in publicly available and consented subdivision master plans, or otherwise
- Deducting 12.5% of the gross site area (per exclusions from 'net density' such as stormwater management & commercial areas), and then multiplying the remaining area by 15 houses/hectare applied to determine capacity. This is consistent with the methodology set out in the Canterbury

[1] Per the HDCA2023, medium term supply of 5950 hh, less demand with margin of 5600 = 350hh surplus.

Regional Policy Statement ('CRPS')), Our Space, the HDCA 2021, HDCA2023, and the independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by Harrison Grierson Limited ('HGL') as detailed in **Appendix A**.

The approach above can be contrasted with Mr Yeoman's calculation of capacity in greenfield areas where he allows only 25% of the gross area for all infrastructure, including stormwater management and commercial areas which is specifically excluded by the statutory and non-statutory documents listed above. Mr Yeoman's allowance of only 25% is also considerably less than the 40.2% average area for all infrastructure in the case studies identified by HGL. Subject to excluding stormwater, etc from gross areas, the 15hh/ha density calculation we have then applied to greenfield areas is otherwise equivalent to Mr Yeoman's approach, and that set out in the HDCA2023, of allowing 25% of the net area for local infrastructure and an average 500m^2 lot size for the balance, to determine capacity. This is explained in further detail in Mr Walsh's memo in **Appendix A**.

Physical Review and 'Ground truthing'

Following the GIS analysis described above, physical inspections of sites and areas were undertaken (in the week of 21 August 2023) in order to validate findings and provide real time / current verification of the potential future capacity of land. In undertaking those site inspections, particular attention was given to:

- Land identified as vacant, that has since been developed and occupied (and cannot provide capacity);
- Land identified as vacant, that has been partially developed and appears incomplete and/or unoccupied (and can therefore provide capacity);
- Land identified as providing capacity by way of infill, that has attributes indicating such infill is unlikely to materialise (e.g. recently completed development where redevelopment is unlikely, building position limiting infill potential, lifestyle properties with areas of open space that appear unlikely to be developed, other site specific or environmental attributes indicating infill unlikely).
- Land where capacity has been underestimated.

Photographic examples of the above are included in **Appendix B**. The maps in **Appendix C** show where some of the differences between our assessment and the WCGM22 model occur and some of the deficiencies within the WCGM22 model. The numbers shown on each area of land/lot on the maps show the difference between the assumed WCGM22 modelled capacity and our validated capacity.

CONCLUSION & RESULTS

The table on the following page summarises the results of the analysis described above. In summary, this analysis finds that:

- Actual household capacity is approximately 4361 households, which is 1573 households (or 26.5%) less than the 5934 households anticipated by the WCGM22 and translates into 1239 household shortfall (rather than 350 surplus) in the medium term based on the HDCA 2023.
- This conclusion potentially:
    - underestimates the shortfall insofar that feasible yield from infill lots (lot shape), economic benefit from the existing dwelling values, ability to develop to the densities in WCGM22 due to downstream constraints (i.e. existing infrastructure network constraints constraining development) has not been considered in my review.
    - underestimates the supply insofar that some developers may achieve higher yields than 15 houses/hectare and the WCGM22 Model may have missed some lots as was found with a very small number missed in Pegasus.

  However, such variance is unlikely to materially alter the conclusion above that the WCGM22 model overstates household capacity.

In our view, Mr Yeoman's response still fails to acknowledge major errors in the WCGM22 which clearly overstates capacity. The appendices provide further detailed information underpinning the summary and conclusions above, as follows:

- **Appendix A | Memo re: Calculation of Greenfield Capacity**
- **Appendix B | Photographic Examples of Sites**
- **Appendix C | WCGM22 Development Area Maps**
- **Appendix D | Detailed Methodology and Findings**
- **Appendix E | Land Covenant Examples**

Location	WCGM 22 Capacity per Mr Yeoman's Minute 5 response	Validated Capacity (Based on subdivision plan)	Validated Capacity (Gross area - 12.5% x 15hh/ha)	Difference in Capacity (Validated vs WCGM22)
Rangiora:				
Bellgrove	**952**		800	**-152**
Townsend Fields	**419**		370	**-49**
Summerset Retirement Village	**211**		182	**-29**
Flaxton Village	**59**		52	**-7**
East Rangiora	**76**		66	**-10**
Kaiapoi:				
Beach Grove	**332**	330		**-2**
Silver Stream	**89**		65	**-24**
Future Silver Stream	**44**		41	**-3**
The Sterling	**137**		90	**-47**
Momentum	**116**		0 (not med term)	**-116**
Woodend/Pegasus:				
Ravenswood	**969**	677		**-292**
Commons Lifestyle Village	**131**		114	**-17**
Woodland Estate	**104**	75		**-29**
Eders	**42**		45	**+3**
Parsonage/Gladstone North	**148**		119	**-29**
Gladstone South	**18**		73	**+55**
Pegasus	**369**	86		**-283**
Vacant/Infill	**WCGM 22 Capacity per Mr Yeoman's Minute 5 response**	**Validated Capacity (desktop and site inspections)**		**Difference in Capacity (Validated vs WCGM22)**
Rangiora Vacant lots	**379**	248		**-131**
Rangiora infill	**355**	270		**-85**
Kaiapoi Vacant lots	**277**	174		**-103**
Kaiapoi infill	**292**	273		**-19**
Woodend/Pegasus Vacant lots	**413**	209		**-204**
Woodend/Pegasus Infill /intensification	**2**	2		**0**
Total Medium Term Household Capacity	**5934**	**4361**		**-1573**

Appendix A | Memo re: Calculation of Greenfield Capacity

24 August 2023

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MEMO

TO: Chris Sexton, Inovo Projects

FROM: Tim Walsh, Senior Planner

PRIVATE PLAN CHANGE PC31 ŌHOKA GREENFIELD DENSITY & CAPACITY CALCULATIONS

Executive Summary

1. This memo sets out the correct methodology for determining development capacity for greenfield areas as set out in the Canterbury Regional Policy Statement including Plan Change 1 ('**CRPS**'), Our Space[1], the Greater Christchurch Housing Development Capacity Assessments of July 2021 and March 2023 ('**HDCA 2021**' and '**HDCA 2023**'), and the independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by Harrison Grierson Limited ('**HGL**')[2].

2. Based on these documents the correct approach to determine household capacity is to:

   i. Define the gross area of the greenfield area being considered (in hectares).

   ii. Deduct areas required for stormwater retention & treatment and local retail/commercial purposes from this gross area, per the definition of 'net density' in the CRPS[3]. Based on the HGL report and the advice of Mr Tim McLeod, we consider 12.5% is an appropriate allowance for stormwater and commercial purposes, recognising that some areas may ultimately require more or less than this.

   iii. Multiply the remaining (net) greenfield area by 15 households/hectare ('**hh/ha**') to determine capacity. This ratio is equivalent to an average 500m^2 residential lot size and an allowance of 25% of net area for community infrastructure including local roads and road corridors, pedestrian and cycleways, and local (neighbourhood) reserves. The latter is the approach adopted by Mr Yeoman, albeit he does not account for the exclusions in the CRPS definition of 'net density' – stormwater in particular.

3. The formula below shows our calculation of capacity (per the CRPS, Our Space, and HDCA 2021) is equivalent to Mr Yeoman's approach (and that set out in the HDCA 2023), provided that for both methods, stormwater should first be deducted from the gross area:

[1] "Our Space – Greater Christchurch Settlement Pattern Update 2019"
[2] Harrison Grierson Greenfield Density Analysis Technical Report – 4 February 2021,
[3] Other exclusions per the definition of 'net density' are not known to be extensive in the greenfield areas in the district and therefore are not considered further here. However, site specific assessment may warrant further reductions to the gross area.

1ha net area x 15 hh/ ha = 15 households

=

(1ha net area– 25% local infrastructure) / 500m^2 avg lot size = 15 households

4. We note that Mr Yeoman's approach and the WCGM22 suggests 25% of the gross area is sufficient for all infrastructure, including stormwater and commercial areas. That is not consistent with the planning documents described above and is at odds with the average area of 40.2% for all infrastructure identified in the HGL report.

5. Mr Yeoman's response to Question 10 in Minute 5 also suggests that the WCGM22 uses variable average lot sizes for different parts of the district. However, that differs from the clear assumption in the HDCA 2023 of a 500m^2 average lot size and 25% allowance for local infrastructure, and a 15hh/ha density in the other planning documents analysed.

Scope

6. This memo reviews, and seeks to confirm, the correct methodology for determining development capacity for greenfield areas as set out in the CRPS, Our Space, the HDCA 2021 and HDCA 2023, and the independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by HGL.

7. These findings are then contrasted to the approach in the WCGM22 as described by Mr Yeoman in his response to Minute 5 for PC31.

The CRPS

8. CRPS Policy 6.3.7 requires that:

> *development in greenfield priority areas shall achieve at least the following residential **net densities** averaged over the whole of an ODP area (except where subject to an existing operative ODP with specific density provisions):*
>
> *a. 10 household units per hectare in greenfield areas in Selwyn and Waimakariri District;*
>
> *b. 15 household units per hectare in greenfield areas in Christchurch City.*

9. Policy 6.3.12 (Future Development Areas) seeks to "*Enable urban development in the Future Development Areas identified on Map A…"* and the methods described for implementing this policy notes that local authorities will:

> *Undertake an evaluation of the appropriateness of existing minimum densities specified in the Regional Policy Statement and whether any changes to minimum densities are likely to be desirable and achievable across the Future Development Areas.*

10. The CRPS definition of 'net density' is relevant to the policies above (and other provisions in Chapter 6) and this term is defined as set out at Figure 1 below.

Net density	is the number of lots or household units per hectare (whichever is the greater). The area (ha) includes land for: • Residential purposes, including all open space and on-site parking associated with residential development; • Local roads and roading corridors, including pedestrian and cycle ways, but excluding State Highways and major arterial roads; • Local (neighbourhood) reserves. The area (ha) excludes land that is: • Stormwater retention and treatment areas; • Geotechnically constrained (such as land subject to subsidence or inundation); • Set aside to protect significant ecological, cultural, historic heritage or landscape values; • Set aside for esplanade reserves or access strips that form part of a larger regional or sub-regional reserve network; • For local community services and retail facilities, or for schools, hospitals or other district, regional or sub-regional facilities.

Figure 1: CRPS definition of net density

11. In summary, the provisions above show that the CRPS seeks the achievement of minimum densities for greenfield areas and Future Development Areas, where the term 'net density' (used interchangeably with 'density' or 'densities') is specifically defined to include certain land and exclude other land. Relevantly, land required for stormwater retention and treatment is excluded.

Our Space

12. In section 5.3 of Our Space, the description of the Settlement Pattern for Greater Christchurch states that for Selwyn and Waimakariri (with my emphasis in bold):

> *it is expected that new urban housing in Waimakariri and Selwyn will achieve a minimum* ***net density*** *of 12 households per hectare where any Future Development Area is subsequently zoned.* ***For this purpose, net density has the same meaning as set out in the Canterbury Regional Policy Statement. This will also provide strong guidance for the development of District Plans for both Waimakariri and Selwyn districts****.*

13. Table 5 in this section of Our Space (see Figure 2) sets out Selwyn and Waimakariri density scenarios and anticipated yields from future development areas. An associated note expressly states that the density scenarios and anticipated yields from FDAs are ***"derived from a total 'gross' hectare and does not take into account infrastructure requirements and structure planning that may reduce the developable area and total dwelling count".***

14. From the extracts above, it is clear that Our Space also expressly refers to the CRPS definition of 'net density' and that infrastructure requirements and structure planning may reduce development capacity.

Table 5: Selwyn and Waimakariri density scenarios and anticipated yields from future development areas

Selwyn long term shortfall: 5,475
Waimakariri long term shortfall: 7,675

	Density scenarios and anticipated yields from FDAs^					
	Selwyn			Waimakariri		
Theoretical additional capacity enabled in existing urban areas*	Density 10 hh/ha	Density 12 hh/ha	Density 15 hh/ha	Density 10 hh/ha	Density 12 hh/ha	Density 15 hh/ha
0	4,700	5,650	7,050	4,500	5,400	6,750
500	5,200	6,150	7,550	5,000	5,900	7,250
1,000	5,700	6,650	8,050	5,500	6,400	7,750
1,500	6,200	7,150	8,550	6,000	6,900	8,250
2,000	6,700	7,650	9,050	6,500	7,400	8,750
2,500				7,000	7,900	9,250

** Subject to enabling this additional capacity via the District Plan Review and using other mechanisms outside of the District Plan to encourage infill/intensification development. Whilst more theoretical capacity may be enabled through District Plan Reviews, robustly calculating feasibility is also limited by a lack of comparable development that provides data (e.g. house sales) within zoned areas.*

^ This is derived from a total 'gross' hectare and does not take into account infrastructure requirements and structure planning that may reduce the developable area and total dwelling count.

Figure 2: Table 5 from Our Space

HDCA 2021

15. At page 6, the HDCA 2021 sets out the projected 3,100 household shortfall in housing sufficiency for the medium term for Waimakariri District in Table 2. As highlighted in Figure 3, the discussion which follows the table clearly notes that greenfield housing capacities are calculated on the basis of an assumed density of 12hh/ha or 15hh/ha, with reference to the CRPS and Our Space which both rely on the specific definition of 'net density' as described above.

16. To the extent that the HDCA selects a density of 15hh/ha for FUDAs, based on the HGL report, this is addressed below.

HGL review of greenfield densities for the GCP

17. An independent review of greenfield densities was commissioned by the Greater Christchurch Partnership and undertaken by HGL[4].

18. Section 5.3.2 of that report presents a number of case studies to help inform the likely density yield for greenfield areas. Those case studies set out land use coverage for these areas, as summarised in Table 1.

[4] Greater-Christchurch-Partnership-Greenfield-Density-Analysis-Technical-Report-Final_Optimized.pdf (greaterchristchurch.org.nz)

Table 2: Urban Housing Sufficiency within Greater Christchurch in the Medium Term 2021 – 2031 – excluding Selwyn and Waimakariri Future Urban Development Areas

Area	Feasible Capacity	Medium term demand + 20% short term margin	Surplus / Shortfall
Waimakariri	2,273	5,410	-3,137
Christchurch	101,994	18,215	83,779
Selwyn	6,452	8,541	-2,089
Total	110,719	32,166	78,553

In response to the medium term shortfall, Future Urban Development Areas (FUDA's) were identified under "Our Space – Greater Christchurch Settlement Pattern Update 2019". On the 28 July 2021, the Minister for the Environment approved Proposed Change 1 to Chapter 6 of the CRPS which identifies new urban housing development (FUDA) areas in Rolleston (additional capacity of 5,756 at 12.5hh/ha and 7,050 at 15hh/ha), Rangiora and Kaiapoi (combined at 12hh/ha is 5,400 and at 15hh/ha is 6,850). Change 1 also adds associated policy provisions to enable Selwyn and Waimakariri District Councils to consider rezoning land within these areas through their district planning processes to meet shortfalls in housing capacity.

Our Space (2019) provided density scenarios and anticipated yields from the FUDAs at 12hh/ha and 15hh/ha[2]. On the basis that the FUDA's are rezoned within the medium term at density yield of 15hh/ha, Table 3 provides an adjustment (scenario) for the medium term sufficiency calculation. A 15hh/ha density yield has been selected based upon an independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by Harrison Grierson Limited. This report concluded that any identified constraints and issues can be overcome to enable the minimum net densities to be increased to 15hh/ha to optimise greenfield land and meet the longer term housing demand profile[3].

Figure 3: Table 2 from the HDCA 2021

19. In respect of the examples in Table 1, the following relevant points are noted:

    i. An average of 9% of the (gross) study area was set aside for commercial use and stormwater management (albeit the latter does not account for off-site stormwater facilities[5]). The CRPS requires these areas to be excluded from 'net density' and as set out in previous evidence on PC31, 12.5% has been excluded from gross areas to define a net area upon which density can be determined.

    ii. An average of 31.2% of the (gross) study area was set aside for streets and lanes and local parks. The CRPS requires these areas to be include in 'net density' and this average compares to the 25% figure suggested by Mr Yeoman.

20. The case studies supported a conclusion in the report that a target minimum net density (per the CRPS definition) of 15hh/ha was appropriate.

[5] If the Sovereign Palms and Longhurst are excluded noting they benefit from off site stormwater management, the area required for stormwater management in the case studies accounts for an average area of 10.6%. If added to the 0.9% average commercial area the total amounts to an average of 11.5%.

Table 1: Land use coverage from the HGL report

	Included in 'net density' and hh/ha calculation (per CRPS			Excluded from 'net density' (per CRPS definition)	
	Residential	**Streets & Lanes**	**Parks**	**Commercial**	**Stormwater reserve**
Spring Grove, Belfast, Christchurch	53	29	0.4	0	18
Golden Sands, Papamoa, Tauranga	58	29	3	1	9
Huapai Triangle, Kumeu, Auckland	58	34	1	1	6
Longhurst, Halswell, Christchurch	63	28	3	2	4*
Greenhill Park, Chartwell, Hamilton	53	29	3	0	15
Faringdon, Rolleston	63	28	3	1	5
Sovereign Palms, Kaiapoi, Christchurch	71	24	4	1	0*
Average	**59.9**	**28.7**	**2.5**	**0.9**	**8.1**
*** Note – stormwater facilities provided outside of the defined case study area**					

HDCA 2023

21. The HDCA 2023 does not explicitly reference the term 'net density' but uses the term 'hh/ha' extensively and refers to the 15hh/ha target set out in the documents summarised above[6]. The HDCA 2023 also states that:

> *For both the SCGM and WCGM the following assumptions have been applied:*
>
> - *'Undevelopable' lots have been removed, including roads and railways, hydrological features, vested roads and reserves and designated sites;*
> - *Dwelling typology is assumed to be what the District Plans enable;*
> - *Estimates are rounded down to the nearest whole number;*
> - *Amalgamation of parcels is not accounted for;*
> - ***That 25% of land area is set aside for infrastructure;***
> - *That no commercial buildings will be constructed in residential zones.*

22. The HDCA also sets out the 25% infrastructure assumption and 500m^2 lot size in its residential density assumptions for Waimakariri greenfield areas as shown in Figure 4.

[6] See section 3.2.1

Table 39: Waimakariri Residential Density Assumptions

Assumption	Reasonably Expected to be Realised
Infrastructure	25%
Medium Density Residential Zone Greenfield Sites	Rangiora – 500m² Kaiapoi – 500m² Woodend – 500m² Pegasus – 500m²

Figure 4: Table 39 from the 2023 HDCA

23. The HDCA 2023 does not define what 'infrastructure' means in the context that it is described in Figure 4. However, with reference to the HGL case studies, 'infrastructure' is evidently the local road and reserve network that is expressly included in the CRPS definition of 'net density', noting that the 25% is comparable (albeit less than) the 31.2% average extent of these areas in the HGL report. For the same rationale, it is concluded that the 25% cannot be for all infrastructure, including commercial areas and stormwater management which are excluded in the CRPS definition of net density, noting that the HGL case studies averaged 40.2% for all infrastructure.

24. It is also relevant to note that the 500m^2 average lot size and 25% infrastructure allowance referred to in the table above aligns with the 15hh/ha target density applied in accordance with the exclusions and inclusions in the CRPS definition of 'net density'. For example, a 500m^2 lot size x 15 households = 7,500m^2 of residential area, with the 2,500m^2 area for local infrastructure comprising the balance 25% of the 1 hectare. The counterfactual (of 25% for all infrastructure) would mean that for a 7,500m^2 area of residential lots, 2,500m^2 would remain for local roads, reserves, commercial areas and stormwater retention and treatment – where that is clearly not consistent with the HGL analysis, or the statutory definition of net density.

Mr Yeoman's Response and the WCGM22

Question 9

25. Question 9(c) of the Panel's Minute 5 sought confirmation of the percentage of land subtracted for stormwater, infrastructure and reserves when assessing capacity in NDAs/FDAs.

26. Mr Yeoman's response stated that "*a total of 25% of raw land is removed, which accounts for* ***all types of non-developable land****, and* ***there is in the WCGM22 no disaggregation of that 25% aggregate figure****"*.

27. Mr Yeoman's approach is not consistent with that set out in the statutory and non-statutory documents described above, which all exclude stormwater and commercial areas from the gross area of land as a first step. Local road and reserve infrastructure is then accounted for as part of the 15hh/ha density calculation, or the 25% infrastructure ratio.

28. As stated above, the HGL case studies show that an average of approximately 40.2% of the raw land area is required for stormwater, infrastructure, reserves and commercial purposes – which is considerably higher than the 25% ratio adopted by Mr Yeoman.

Question 10

29. Question 10 of the Panel's Minute 5 asked for the assumed lot size or hh/ha yield.

30. Mr Yeoman's response states that "*the average lot sizes applied in the WCGM22 are as follows for South East Rangiora (501m^2), North East Rangiora (543m^2), North West Rangiora (693m^2), South West Rangiora (499m^2), and North Kaiapoi (384m^2)"*.

31. It is unclear if Mr Yeoman is stating that variable lot sizes have been applied in different locations in the WCGM22 or the rationale for doing so, however Table 39 of the HDCA 2023 is clear that a 500m^2 lot size is assumed for all of Waimakariri's greenfield areas. As set out above, this is consistent with a 15hh/ha yield applied in accordance with the definition of 'net density'.

Conclusion

32. The following statutory and non-statutory documents provide a clear and consistent approach to the calculation of net density and household capacity for greenfield areas, where stormwater and commercial areas are excluded from the 'gross area':

    i. The CRPS (including Plan Change 1);

    ii. Our Space;

    iii. The HDCA 2021;

    iv. The HDCA 2023 (albeit, it used a 500m^2 average lot size and 25% allowance for local infrastructure)

    v. The independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by HGL.

33. In contrast, Mr Yeoman's approach and the WCGM22 suggests 25% of the gross area is sufficient for all infrastructure, including stormwater and commercial areas. That is not consistent with the documents described above and is at odds with the average area of 40.2% for all infrastructure identified in the HGL report.

34. Mr Yeoman's response to Question 10 in Minute 5 also suggests that the WCGM22 uses variable average lot sizes for different parts of the district. However, that differs from the clear assumption in the HDCA 2023 of a 500m^2 average lot size and 25% allowance for local infrastructure, and a 15hh/ha density in the other planning documents analysed.

35. Given the above, we consider the correct approach to determine household capacity is to:

    i. Define the gross area of the greenfield area being considered (in hectares).

    ii. Deduct areas required for stormwater retention & treatment and local retail/commercial purposes from this gross area, per the definition of 'net density' in the CRPS. Based on the HGL report and the advice of Mr Tim McLeod, we consider 12.5% is an

appropriate allowance for stormwater and commercial purposes, recognising that some areas may ultimately require more or less than this.

iii. Multiply the remaining (net) greenfield area by 15hh/ha to determine capacity. This ratio is equivalent to an average 500m^2 residential lot size and an allowance of 25% of net area for community infrastructure including local roads and roading corridors, pedestrian and cycle ways, and local (neighbourhood) reserves. The latter is the approach adopted by Mr Yeoman, albeit he fails to account for the exclusions in the CRPS definition of 'net density', and stormwater in particular.

36. The formula below shows our calculation of capacity (per the CRPS, Our Space, and HDCA 2021) is equivalent to Mr Yeoman's approach (and that set out in the HDCA 2023), provided that for both methods stormwater should first be deducted from the gross area:

1ha net area x 15 hh/ ha = 15 households

=

(1ha net area– 25% local infrastructure) / 500m^2 avg lot size = 15 households

Appendix B | Photographic Examples of Sites

[Note: Photos taken week of 21 August 2023]

Figure 1 – Completed Houses in previous stages of Townsend Fields Rangiora - Overcount in WCGM22 of 107 Lots in 'Rangiora Vacant lots'

Figure 2- Completed Rangiora Housing New Zealand Multi Lot Development (High Street) – Overcount in WCGM22 of 6 Lots

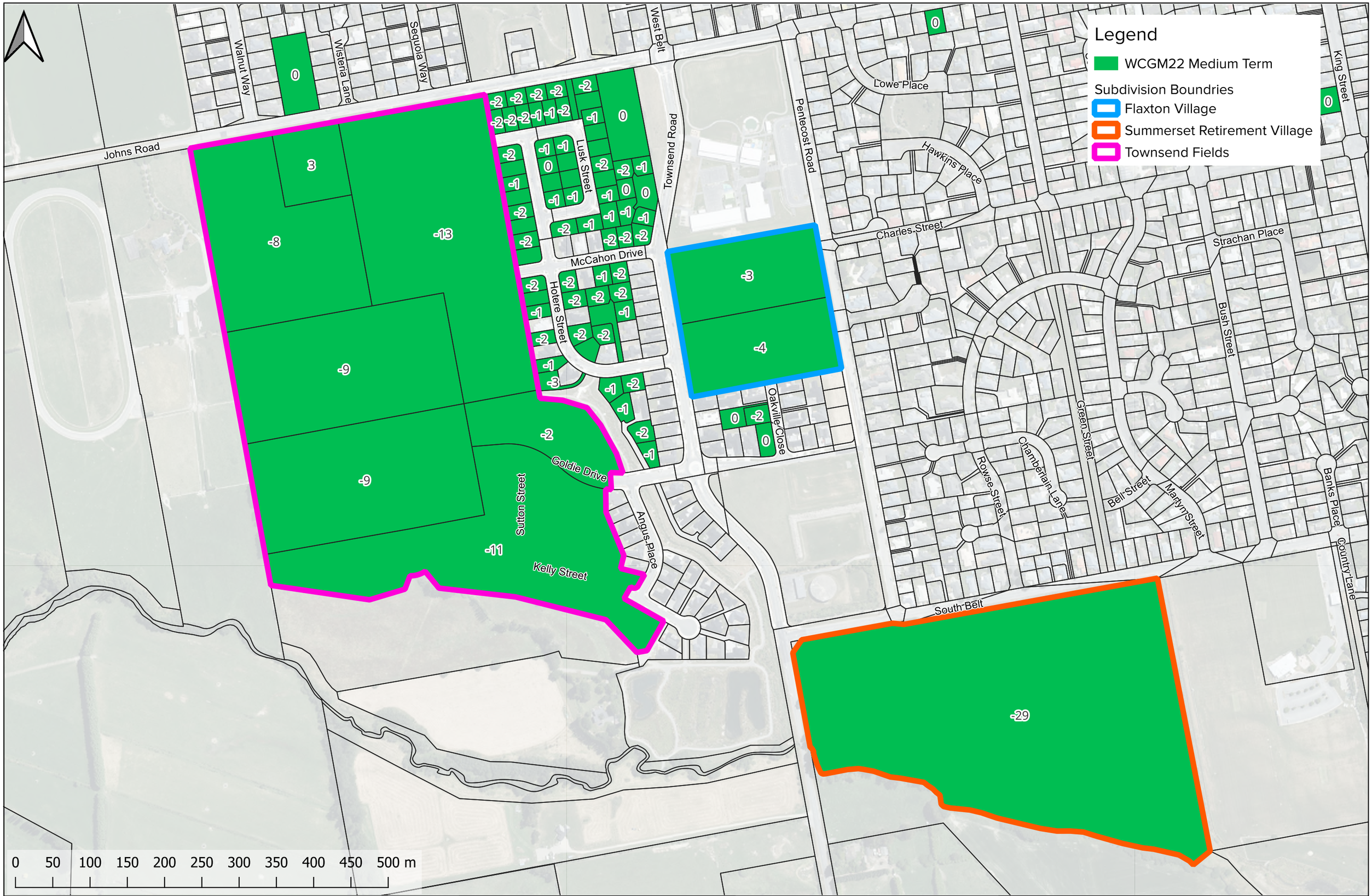
Figure 3 – Completed Houses Built within Mike Greer Development in Pegasus – Overcount in WCGM22 of 53 Lots

Figure 4 - Developed Lots and completed houses within previous stages of Ravenswood – Overcount in WCGM22 of 178 Lots as vacant lots

Figure 5 - Completed Houses within previous stages of Woodland Estate- Overcount in WCGM22 of 71 Lots in 'Woodend/Pegasus Vacant lots'

Figure 6 - Completed Houses in previous stages of Beach Grove Subdivision – Kaiapoi – Overcount in WCGM22 of 98 Lots in 'Kaiapoi Vacant lots'

Appendix C | WCGM22 Development Area Maps



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Project
MILL ROAD OHOKA
PRIVATE PLAN CHANGE 31

Drawing Title
WCGM22 SUBDIVISION AREAS
RANGIORA WEST

Status
FOR INFORMATION

Map No.
14895-M-WCGM22-01

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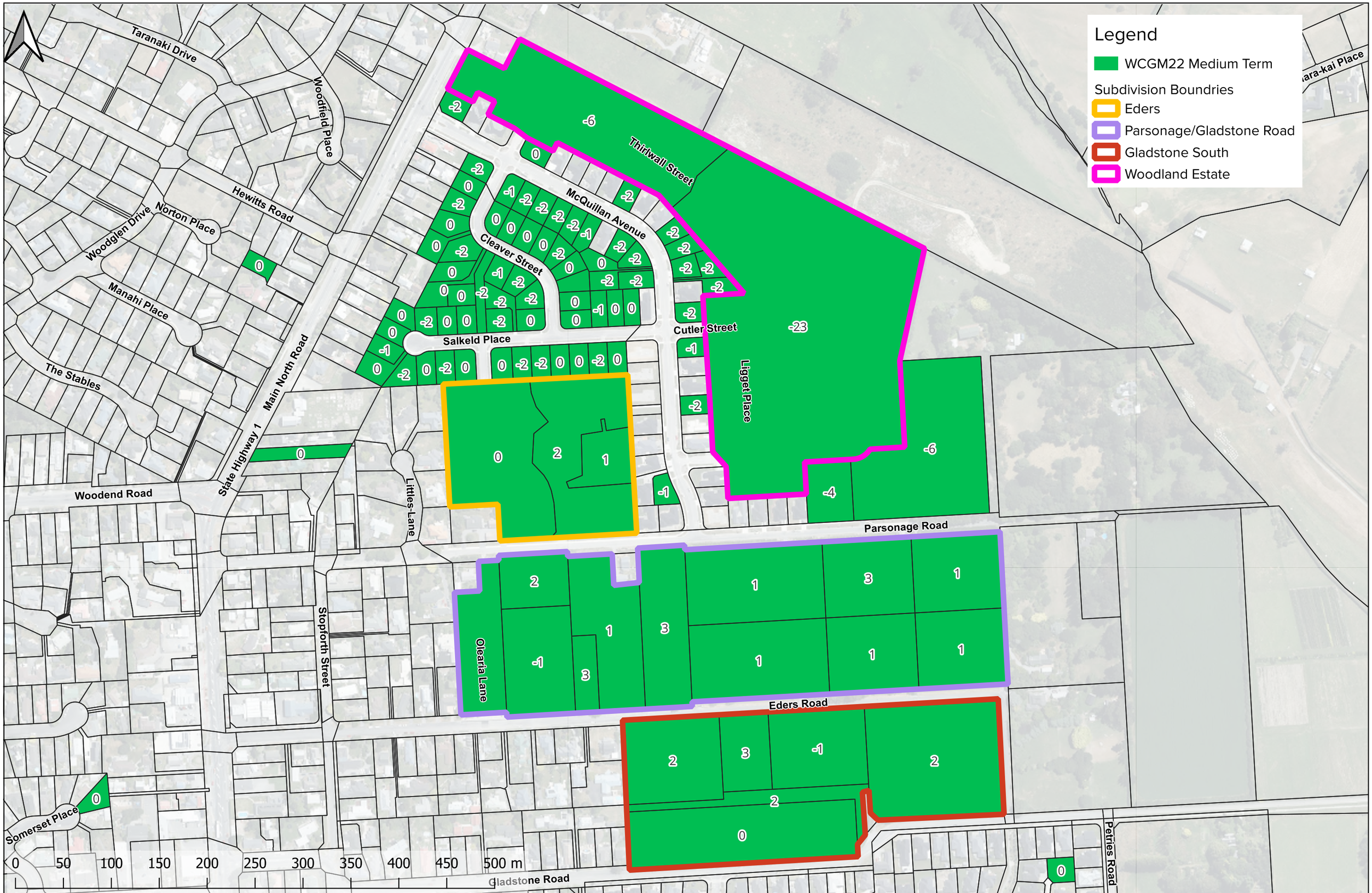

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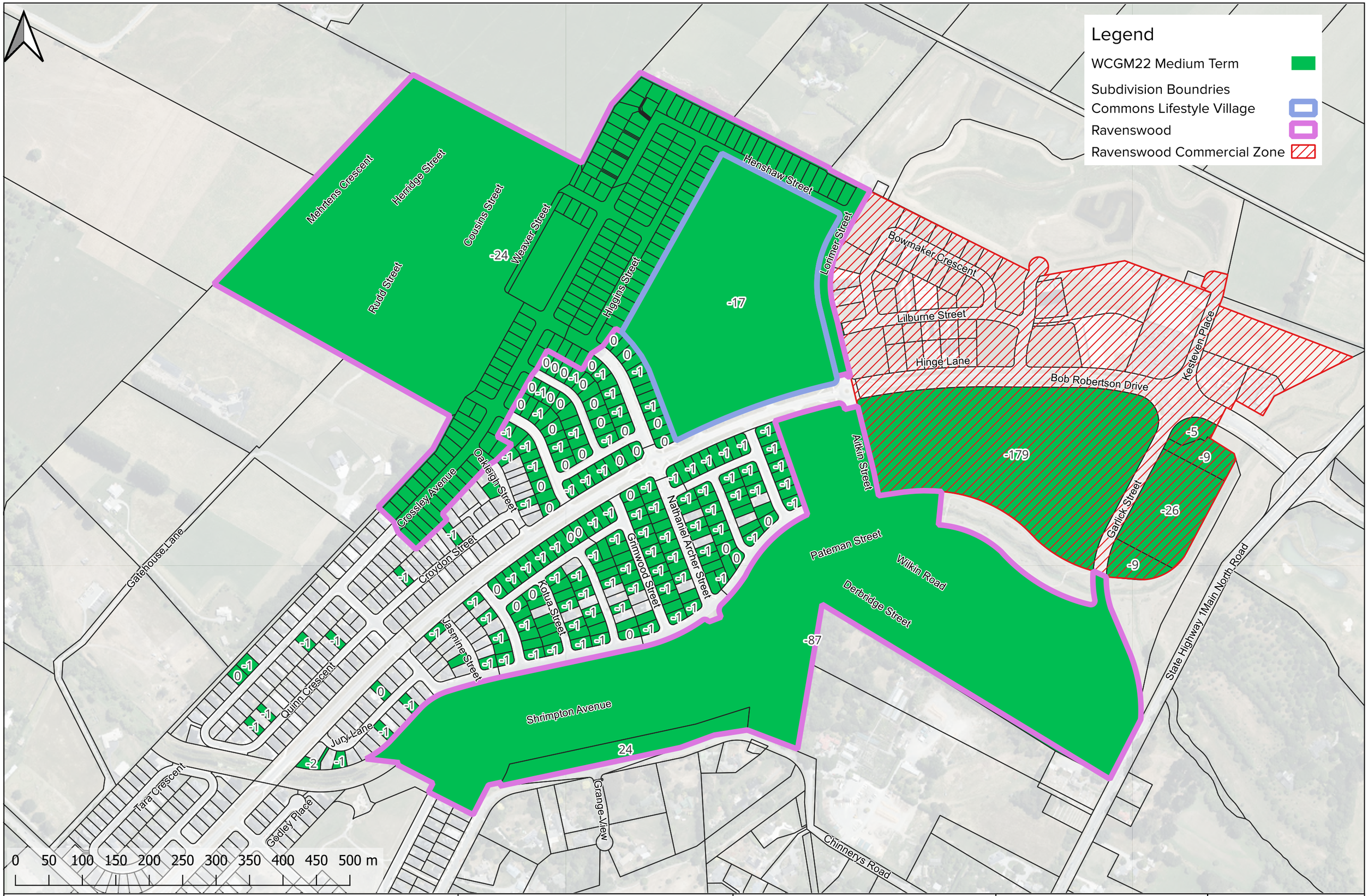

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Legend

WCGM22 Medium Term

Subdivision Boundries

N - Pegasus

0 50 100 150 200 250 300 350 400 450 500 m

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Appendix D | Detailed Methodology and Findings

1 Introduction

This Appendix outlines the detailed methodology and findings of a further investigation into the WCGM22 model as developed by Formative as part of their economic assessment for the Waimakariri District.

Further investigation of the model has focused only on areas identified in the Medium Term, noting PC31 will provide housing capacity within the medium term.

2 Methodology

The WCGM22 data was analysed in QGIS and combined with other open-source data[2] to provide further information. This included matching the ID's in the WCGM22 with the LINZ Data Service Primary Parcel Dataset allowing further information such as address, parcel appellation, title reference, legal owner etc to be identified.

The WCGM22 data was then analysed to check for the following:

- Recreation Reserve Lots
- Utility Reserve Lots
- Council Owned Facilities (i.e. water treatment plants)
- Parcels featuring heritage buildings
- Parcels featuring protected trees
- Pre-Schools/early learning centres
- Churches/Places of Worship.

A number of areas were then checked for land covenants and/or encumbrances that would prevent further subdivision or intensification. Examples of these can be found in **Appendix E** for Ravenswood, Townsend Fields, Pegasus and Mansfield Drive (Kaiapoi).

Vacant lots were identified in the WCGM22 dataset as lots with 0 buildings on the parcels. These vacant lots were then checked to confirm they are still in fact vacant. This was initially done using the latest aerial imagery flown in early 2023 over the urban areas by Waimakariri District Council/ECan. Vacant lots were then verified by driving the district and confirming if the sites were vacant or if a dwelling had been completed therefore removing any potential future capacity in the medium term.

Sites in areas where there were no restrictive covenants with dwellings under construction were also checked to confirm capacity, and in most cases were assessed as only being able or likely to provide a single housing unit in the medium term on the basis that redevelopment or infill development resulting in additional dwellings on the site was highly unlikely (due to the recent/new establishment of the dwelling).

Greenfield Development was identified by Mr Yeoman as being the following:

A) Bellgrove
B) Townsend Fields
C) Summerset Retirement Village
D) Flaxton Village
E) East Rangiora
F) Beach Grove
G) Silver Stream & Future Silver Stream
H) The Sterling

[2] For example: LINZ Data service, Waimakariri District Council GIS Data, ECan Open Data Portal (Canterbury Maps).

I) Momentum
J) Ravenswood
K) Commons Lifestyle Village
L) Woodland Estate
M) Eders
N) Pegasus

Along with:

Parsonage/Gladstone North
Gladstone South

It is important to note that the extent of these subdivisions as identified in Mr Yeoman's response to Minute 5 by the Commissioners do not necessarily match the extent or naming of the subdivisions as assigned by the developers. For example, greenfield capacity identified within Pegasus by Mr Yeoman (as depicted on his map with the letter "N") related to only a small part of the Pegasus subdivision, with vacant land capacity in other parts of Pegasus then attributed to the Woodend-Pegasus area. Despite this, we have adopted a consistent approach to our review and validation of capacity below to ensure that our findings can be directly correlated with the WCGM22.

For areas A-N above, medium-term household capacity was confirmed by either:

a. Adopting yields in publicly available and consented subdivision master plans; or otherwise

b. Deducting 12.5% of the gross site area for stormwater management, and then multiplying the remaining area by 15 houses/hectare applied to determine capacity. This is consistent with the methodology set out in the Canterbury Regional Policy Statement ('CRPS')), Our Space, the HDCA 2021, HDCA2023, and the independent review of greenfield densities commissioned by the Greater Christchurch Partnership and undertaken by Harrison Grierson Limited ('HGL') as detailed in **Appendix A**.

The approach above can be contrasted with Mr Yeoman's calculation of capacity in greenfield areas where he allows only 25% of the gross area for all infrastructure, including stormwater management areas which is specifically excluded by the statutory and non-statutory documents listed above. Mr Yeoman's allowance of only 25% is also considerably less than the 40.2% average area for all infrastructure in the case studies identified by HGL. Subject to excluding stormwater from gross areas, the 15hh/ha density calculation we have then applied to greenfield areas is otherwise equivalent to Mr Yeoman's approach, and that set out in the HDCA2023, of allowing 25% of the net area for local infrastructure and an average 500m^2 lot size for the balance, to determine capacity. This is explained in further detail in Mr Walsh's memo in **Appendix A**.

3 Results

3.1 Rangiora

3.1.1 Area A – Bellgrove

No master plan for the entire Bellgrove development could be found that was publicly available. The predicted yield for Bellgrove was therefore calculated using the gross site area (61.0 ha), minus a 12.5% allowance for stormwater management and allowing for 15 houses per hectare over the remainder of the site. This resulted in a predicted yield of 800 lots, 152 less than WCGM22 predicted in the medium term.

3.1.2 Area B – Townsend Fields

No master plan for the area identified as Townsend Fields within Mr Yeomans Maps could be found that was publicly available. The predicted yield for the area identified as Townsend Fields was calculated using the gross site area (28.2 ha), minus a 12.5% allowance for stormwater management and allowing for 15 houses per hectare over the remainder of the site. This resulted in a predicted yield of 370 lots, 49 less than WCGM22 predicted in the medium term.

3.1.3 Area C – Summerset Retirement Village

Mr Yeoman clarified within his response to Minute 5 that WCGM22 considered retirement villages, although not at their ultimate yield, but instead as the yield that would be realised under normal development. This approach has been taken when assessing these areas, with the same methodology used as when assessing

greenfield sites with a 12.5% allowance made for stormwater treatment. This resulted in a predicted yield of 182 lots on the Summerset Retirement Village site as identified by Mr Yeoman in his Maps attached to his response to Minute 5. This result is 29 lots less than originally predicted by WCGM22.

3.1.4 Area D – Flaxton Village

Mr Yeoman clarified within his response to Minute 5 that WCGM22 considered retirement villages, although not at their ultimate yield, but instead as the yield that would be realised under normal development. This approach as been taken when assessing these areas, with the same methodology used as when assessing greenfield sites with a 12.5% allowance made for stormwater treatment. This resulted in a predicted yield of 52 lots on the Flaxton Village site as identified by Mr Yeoman in his Maps attached to his response to Minute 5. This result is 7 lots less than originally predicted by WCGM22.

3.1.5 Area E – East Rangiora

No master plan for the area identified as East Rangiora within Mr Yeoman's Maps could be found that was publicly available. The predicted yield for the area identified as East Rangiora was calculated using the gross site area (5.1 ha), minus a 12.5% allowance for stormwater management and allowing for 15 houses per hectare over the remainder of the site. This resulted in a predicted yield of 66 lots, 10 less than WCGM22 predicted in the medium term.

3.1.6 Rangiora Vacant Lots

For the Rangiora area (outside of the Greenfield areas as per Mr Yeoman's maps), Vacant Lots were identified as lots with 0 buildings on them in the WCGM22 dataset.

However, a number of the vacant lots in the WCGM22 were found to have houses or buildings already on them due to buildings being constructed over multiple parcels.

It was also found that a number of vacant lots were subject to restrictive covenants that prevent further subdivision of the land that would preclude intensification beyond one additional dwelling per vacant lot, as otherwise assumed by the WCGM22. The Townsend Fields Development is one such example, with other examples of covenants precluding further capacity being realised on vacant lots provided in **Appendix E**.

WCGM22 also featured multiple utility reserves (stormwater basins) and recreation reserves in the vacant land category, despite such land being unsuitable for residential development in the medium term or otherwise.

Vacant lots were verified by first reviewing aerial imagery flown at the beginning of 2023 by the Waimakariri District Council to identify if a dwelling had been constructed on the remaining viable vacant sites. This was then confirmed by visiting the sites to confirm the buildings had been completed along with checking to see if any additional lots had completed buildings on them since the aerial imagery was flown.

This resulted in a vacant lot yield of 248 lots within Rangiora, 131 lots less than originally predicted by WCGM22.

3.1.7 Rangiora Infill/Intensification

It was assumed that infill/intensification would include lots that had 1 or more building on them within the WCGM22 model and were not included within the identified subdivisions. A number of lots were identified in the WCGM22 model that had been included in error. These lots were identified on the following criteria:

- Pre-Schools
- Lots already intensified or developed with completed buildings, thus precluding further capacity

Examples of lots already developed that cannot provide for further infill or intensification include the Kāinga Ora high-density development built in 2019 on High Street/White Street in Rangiora (assumed as 6 additional/new lots in the WCGM22) (see Figure 2 photo in **Appendix B**) and the existing Holmwood retirement village (assumed as 4 additional/new lots in the medium term in WCGM22) in Rangiora (village built over multiple parcels). The preschool at 62 Percival Street (assumed as 2 additional/new lots in the WCGM22) is another example of a site that is unlikely to yield capacity through infill or intensification in the medium term.

These errors resulted in the total available amount of lots available for infill/intensification within Rangiora being 270, a reduction of 85 lots from the original WCGM22 model.

3.2 Kaiapoi

3.2.1 Area F – Beach Grove

The area identified as Beach Grove in WCGM22 as identified by Mr Yeoman within his response to Minute 5 when referenced back to the master plan for Beach Grove results in a future yield of 330 residential lots. This is 2 lots lower than that predicted by WCGM22. A reason why this difference is smaller than for other areas is that the required area for stormwater management is far smaller due to the works undertaken by Waimakariri District Council to construct a stormwater pump station at the end of Macintosh Drain, removing attenuation requirements for the development.

3.2.2 Area G - Silver Stream

No master plan for the area identified as Silver Stream within Mr Yeoman's Maps could be found that was publicly available. The predicted yield for the area identified as Silver Stream was calculated using the gross site area (5.0 ha), minus a 12.5% allowance for stormwater management and allowing for 15 houses per hectare over the remainder of the site. This resulted in a predicted yield of 65 lots, 24 less than WCGM22 predicted in the medium term.

3.2.3 Future Silver Stream

No master plan for the area identified as Future Silver Stream within Mr Yeomans Maps could be found that was publicly available. The predicted yield for the area identified as Future Silver Stream was calculated using the gross site area (3.13 ha), minus a 12.5% allowance for stormwater management and allowing for 15 houses per hectare over the remainder of the site. This resulted in a predicted yield of 41 lots, 3 less than WCGM22 predicted in the medium term.

3.2.4 Area H – The Sterling

Mr Yeoman clarified within his response to Minute 5 that WCGM22 considered retirement villages, although not at their ultimate yield, but instead as the yield that would be realised under normal development. This approach has been taken when assessing these areas, with the same methodology used as when assessing greenfield sites with a 12.5% allowance made for stormwater treatment. This resulted in a predicted yield of 90 lots on The Sterling site as identified by Mr Yeoman in his Maps attached to his response to Minute 5. This result is 47 lots less than originally predicted by WCGM22.

3.2.5 Area I – Momentum

Mr Yeoman mentioned that Future Development/New Development areas as identified by Waimakariri District Council should not be included in the medium term, and instead be included as long-term yield. We agree.

The Momentum site as identified by Mr Yeoman in his response to Minute 5 and within WCGM22 shows that the site has been identified as proposing medium-term development capacity. This site is zoned as Rural in the current operative district plan, and is also zoned as rural lifestyle zone in the proposed district plan. For these reasons this site has been excluded from the medium term in our analysis. This site also falls within the Airport Noise Contour and is covered by High Flood Hazard, both qualifying matters in regards to the MDRS. This results in an overestimation by WCGM22 of 116 lots within the medium term.

3.2.6 Kaiapoi Vacant Lots

For the Kaiapoi area (outside of the Greenfield areas as per Mr Yeoman's maps), vacant Lots were identified as lots with 0 buildings on them in the WCGM22 dataset.

A number of these lots were found to have houses or buildings already on them. A majority of the vacant lots were found to be within the Beach Grove Subdivision (outside of area "F" as outlined in Mr Yeoman's maps).

WCGM22 featured multiple utility reserves (wastewater pump stations) and recreation reserves in the vacant land category, despite such land being unsuitable for residential development.

Vacant lots were verified by first reviewing aerial imagery flown at the beginning of 2023 by the Waimakariri District Council to identify if a dwelling had been constructed on the remaining viable vacant sites. This was then confirmed by visiting the sites to confirm the buildings had been completed along with checking to see if any additional lots had completed buildings on them since the aerial imagery was flown.

The vacant lot housing capacity was found to be 174 within Kaiapoi, 103 less than predicted by WCGM22.

3.2.7 Kaiapoi Infill/Intensification

It was assumed that infill/intensification would include lots that had 1 or more buildings on them within the WCGM22 model and were not included within the identified subdivisions. A number of lots were identified in the WCGM22 model that had been included in error. These lots were identified on the following criteria:

- Pre-Schools
- Lots already intensified (including completed homes, and multi-unit developments by Kainga Ora)
- Lots with restrictive covenants/encumbrances preventing intensification and/or further subdivision
- Lots featuring buildings with heritage status
- Lots featuring protected trees
- Churches/places of worship
- Council owned utilities (water treatment plants etc.)

Some examples of these errors include the Kaiapoi Congregation of Jehovah's Witnesses (assumed as 3 additional/new lots in the WCGM22), the Church Square Water Supply headworks between Cass St and Sewell Street (assumed as 3 additional/new lots in the WCGM22), Peraki Street Wastewater Pump Station(assumed as 2 additional/new lots in the WCGM22), the preschool at 58 Williams Street (assumed as 2 additional/new lots in the WCGM22) and established houses within the Mansfield Drive development (assumed as 43 additional/new lots in the WCGM22) that feature encumbrances that prevent further subdivision and intensification.

The completed Kainga Ora multi-lot residential development on the corner of Williams Street and Dale Street (assumed as 5 additional/new lots in the WCGM22) is an example of a developed lot, where further infill or intensification in the medium term is unlikely.

These errors resulted in the total available amount of lots available for infill/intensification within Kaiapoi being 273, a reduction of 19 lots from the original WCGM22 model.

3.3 Woodend-Pegasus

3.3.1 Area J – Ravenswood

The area identified as Ravenswood in WCGM22 included the commercial areas of Ravenswood that were rezoned as part of Plan Change 30 that was notified in November 2020 and became operative on 26 June 2023. This resulted in 12.8 hectares of land being rezoned from Residential 6a to Business 1 within the Ravenswood Development. The available yield within area "J" as identified by Mr Yeoman within his response to Minute 5 when referenced back to the master plan for Ravenswood results in a future yield of 703 residential lots. This is 266 lots lower than that predicted by WCGM22 due to the removal of the commercial areas, along with the slightly lower density achieved over Stages 5 and 6 compared to what WCGM22 predicted.

On site validation found that 26 of these lots have since had houses been completed on them, further reducing the available capacity that WCGM22 predicts. This results in a medium-term capacity of 677 households for this area, a reduction of 292 from the original WCGM22 prediction.

3.3.2 Area K – Commons Lifestyle Village

Mr Yeoman clarified within his response to Minute 5 that WCGM22 considered retirement villages, although not at their ultimate yield, but instead as the yield that would be realised under normal development. This approach as been taken when assessing these areas, with the same methodology used as when assessing greenfield sites with a 12.5% allowance made for stormwater treatment. This resulted in a predicted yield of 114 lots on the Commons Lifestyle Village site as identified by Mr Yeoman in his Maps attached to his response to Minute 5. This result is 17 lots less than originally predicted by WCGM22.

3.3.3 Area L – Woodland Estate

The master plan for the Woodland Estate development was available online. Mr Yeoman has identified the Woodland Estate Subdivision as being Stage 3 based upon the map he provided in his response to Minute 5.

The yield from Stage 3 is found to be 75 lots. This is lower than WCGM22 by 29 lots. Woodland Estate Stage 3 will have its stormwater managed in the downstream stormwater management area as constructed as part of the earlier stage. This stormwater management area also makes allowance for Area M – Eders as identified by Mr Yeoman.

3.3.4 Area M – Eders

As mentioned above, this area will have its stormwater managed by the downstream stormwater management area, this means that a density of 15 houses/hectare has been applied over the gross site area (i.e. a 12.5% deduction is not necessary here). This results in a yield of 45 lots, 3 more than predicted by WCGM22.

It should be noted that a dwelling has been constructed on this site and completed at the beginning of 2023. This dwelling has a floor area of 320m² and may impact the potential yield from the site due to the dwelling's location and size. This has not been considered in either assessment.

3.3.5 Parsonage/Gladstone North

This area identified by Mr Yeoman in his maps attached to his response to Minute 5 relates to the lots identified in WCGM22 between Parsonage Road and Eders Road. The WCGM22 model predicted 101 lots within this area (when referring to the mapped area presented in Appendix 1 of Mr Yeoman's response to Minute 5). However, accounting for the gross area of 9.07ha, a 12.5% allowance for stormwater management, and a density of 15 houses/hectare, this results in a predicted yield of 119 lots. This estimated yield is 18 lots more than WCGM22 predicts. When comparing the predicted yield of 119 lots to the listed capacity in Mr Yeoman's table of 148 lots, the estimated yield is 29 lots less. The differing numbers here are a result of what lots are allocated to certain areas in the table and on the maps.

3.3.6 Gladstone South

This area identified by Mr Yeoman in his maps attached to his response to Minute 5 relates to the lots identified in WCGM22 between Eders Road and Gladstone Road. This is a total of 5.57ha, and after a 12.5% allowance for stormwater management and a density of 15 houses/hectare, this results in a predicted yield of 73 lots. The WCGM22 model predicted 65 lots within this area (when referring to the mapped area presented in Appendix 1 of Mr Yeomans response to Minute 5). This estimated yield is 8 lots more than WCGM22 predicts. When comparing the predicted yield of 73 lots to the listed capacity in Mr Yeoman's table of 18 lots, the estimated yield is 55 lots more. The differing numbers here are a result of what lots are allocated to certain areas in the table and on the maps.

The overall result of our assessment to this area (Parsonage/Gladstone North and Gladstone South) is the same either way it is calculated. 18 lots more + 8 lots more = 26 lots more overall. Alternatively, 29 lots less (-29) + 55 lots more = 26 lots more overall.

3.3.7 Area N – Pegasus

The area identified as Pegasus in Mr Yeoman's Map was easily identified in the WCGM22 data. Our assessment found that a number of lots in this area had been developed with houses completed already. There was also a reserve identified in this area (assumed as 2 additional/new lots in the WCGM22). The larger of the areas identified within Pegasus entailed the largely completed Mike Greer Homes development, where the WCGM22 model predicted a yield of 85 lots. However, this development is nearing completion with most of the dwellings already completed and occupied.

The Maps provided by Mr Yeoman identified a number of lots on Lakeside Drive as being included in the "Pegasus" subdivision area N. Reviewing the raw model data and historic parcel ID's (Parcel ID's are updated if a lot is subdivided) there was no match found for these lots within WCGM22. On this basis, we added an additional 16 allotments to the capacity for this area, noting it had otherwise been overlooked in the WCGM22.

Accounting for the above, the total number of available lots to provide household capacity (i.e. lots not already developed with completed houses) was found to be 86 lots. This was found to be significantly lower (by 283 lots) than the 369 lots predicted by WCGM22.

3.3.8 Woodend/Pegasus Vacant Lots

For the Woodend/Pegasus area (outside the Greenfield areas as per Mr Yeoman's maps), vacant Lots were identified as lots with 0 buildings on them in the WCGM22 dataset. A number of these lots were found to have houses or buildings already on them. It was also found that a number of lots had been included that are subject to restrictive covenants that prevent further subdivision of the land. WCGM22 had identified a number of these lots as being able to provide 2 or more additional lots in the medium term. This, along with the fact that many of these parcels now have dwellings completed on them further reduces the capacity available in the medium term as it has already been realised.

WCGM22 featured multiple utility reserves (wastewater pump stations) and recreation reserves in the vacant land category (assumed as 14 additional/new lots in the medium term in WCGM22).

Vacant lots were verified by first reviewing aerial imagery flown at the beginning of 2023 by the Waimakariri District Council to identify if a dwelling had been constructed on the remaining viable vacant sites. This was then confirmed by visiting the sites to confirm the buildings had been completed along with checking to see if any additional lots had completed buildings on them since the aerial imagery was flown.

The yield potential was also checked for multiple developments by checking the restrictive covenants to see if there was anything to prohibit further development. It was found that within Pegasus (inside and outside of Area "N") a number of lots identified by Mr Yeoman in WCGM22 featured restrictive covenants that specified minimum floor area for buildings and prohibited further subdivision of the land. The vacant lots within the Ravenswood development (outside of Area J) are covered by restrictive covenants that prevent further subdivision or sale of the land without improvements. This meant that lots could only have a yield of 1 if there was not a house already completed due to the inability to further subdivide. Examples of the covenants are included in **Appendix E**.

Lots within the existing stages of the Woodland Estate subdivision (inside and outside of Area "L") are subject to covenants however, there are no apparent restrictions on further subdivision based on our review. Lots that had been completed were removed from the capacity assessment, and lots under construction were considered as providing only a single dwelling in the medium term. This assumption that dwellings under construction would only provide a single lot was based on the assumption that a brand-new dwelling would not be demolished to create 2 lots in the medium term.

This resulted in a vacant lot yield of 209 lots within Woodend, Ravenswood and Pegasus, 204 lots less than originally predicted by WCGM22.

3.3.9 Woodend/Pegasus Infill/Intensification

There were only 2 lots identified as providing infill/intensification in WCGM22. Both lots identified could support further subdivision to allow intensification.

4 Mr Yeoman's evidence & response to Minute 5

Mr Walsh's memo in **Appendix A** notes the errors in Mr Yeoman's approach to including stormwater areas within the 25% allowance for local infrastructure and this has been accounted for in our review and analysis above.

We otherwise note that Mr Yeoman has stated multiple times within his summary of evidence and in his response to Minute 5 that he believed in our original evidence we had identified only 53 dwellings in the medium term that had been included in error. We are unsure as to how he came to this conclusion of the number 53, noting we identified the following in our initial examples:

- Recreation Reserves – 39 Lots
- Utility Reserves – 22 Lots
- Streams and Rivers (Northbrook) – 3 Lots
- Council Property (Water treatment plant etc.) – 5 Lots

This accounts for 69 lots before taking into consideration the other factors that were investigated as part of this memo. In our view, Mr Yeoman's response still fails to acknowledge major errors in the WCGM22 which clearly overstates capacity as evident in the table above and analysis which follows.

As a concluding comment, we note that whilst our analysis does not examine the long term, the capacity shortfall and inherent errors in the model described above will affect long term calculations of capacity in the same way. Those calculation errors and reliance on capacity in uncertain areas such as the Kaiapoi NDA risk compounding the overestimation of capacity and the underestimation of any shortfall in supply.

5 Conclusion

In summary, this analysis finds that:

- Actual household capacity is approximately 4361 households, which is 1573 households (or 26.5%) less than the 5934 households anticipated by the WCGM22 and translates into 1239 household shortfall (rather than 350 surplus) in the medium term based on the HDCA 2023.
- This conclusion potentially:
    - underestimates the shortfall insofar that feasible yield from infill lots (lot shape), economic benefit from the existing dwelling values, ability to develop to the densities in WCGM22 due to downstream constraints (i.e. existing infrastructure network constraints constraining development) has not been considered in my review.
    - underestimates the supply insofar that some developers may achieve higher yields than 15 houses/hectare and the WCGM22 Model may have missed some lots as was found with a very small number missed in Pegasus.

  However, such variance is unlikely to materially alter the conclusion above that the WCGM22 model overstates household capacity.

Appendix E | Land Covenant Examples

RAVENSWOOD RESTRICTIVE COVENENTS

Land Use Restrictions

3.36 No Lot shall be used for any form of temporary residential purposes either by the construction of temporary Buildings or by the placement of caravans, modular homes, mobile homes, motor homes, house trailers, buses, tractors, huts, tents and/or vehicles able to be used for human habitation except for a builder's shed at the commencement of, and for the duration of construction, of any dwelling being erected on the Lot.

3.37 Lot Owners must not use any Lot for any primary purpose other than for residential occupation unless previously agreed in writing by a duly authorised representative of Ravenswood. Ancillary purposes are governed by the planning provisions under any regulatory land use controls applicable from time to time.

3.38 No Lot shall be sold, leased, transferred, assigned or otherwise disposed of to any Governmental agency or Territorial Authority for the purposes of public or institutional housing without the prior approval of Ravenswood.

3.39 No inflammable, explosive or noxious materials are to be stored or used on any Lot or in any Building. The Lot Owner must not allow any offensive activity to be conducted or permitted to exist upon any Lot, or in any Building, nor shall anything be done or permitted to exist on any Lot or in any Building that may be or may become an annoyance or private or public nuisance. An annoyance or private or public nuisance includes loud sounds or noises or offensive smells.

3.40 No Lot, driveway or common area shall be used for the purpose of long term vehicle parking, repair or maintenance. No unregistered, non-licensed or expired license or inoperable vehicles of any kind shall be permitted to remain on any Lot (unless parked inside the garage).

3.41 No recreational or commercial vehicles boats or trailers are to be regularly located on the road or in front of the Building line of the main Building constructed or to be constructed on the Lot.

3.42 No Lot may be further subdivided nor shall any further easements be agreed to, granted or registered on any Lot, including rights of way.

TOWNSEND FIELDS RESTRICTIVE COVENENTS:

ANNEXURE SCHEDULE

The Covenantor:

1. **No Subdivision**

   Shall not further subdivide the land either by way of unit plan, cross-lease or fee simple subdivision, but this shall not apply to a boundary adjustment between two lots which does not create any additional record of title.

PEGASUS RESTRICTIVE COVENENTS

(3.44) No Lot may be further subdivided nor shall any further easements be agreed to, granted or registered on any Lot, including rights of way.

MANSFIELD DRIVE RESTRICTIVE ENCUMBRANCE

1. (a) The Grantor shall not cover the surface of any of the said lots with more than 300m2 of any substance impervious to water (including buildings).

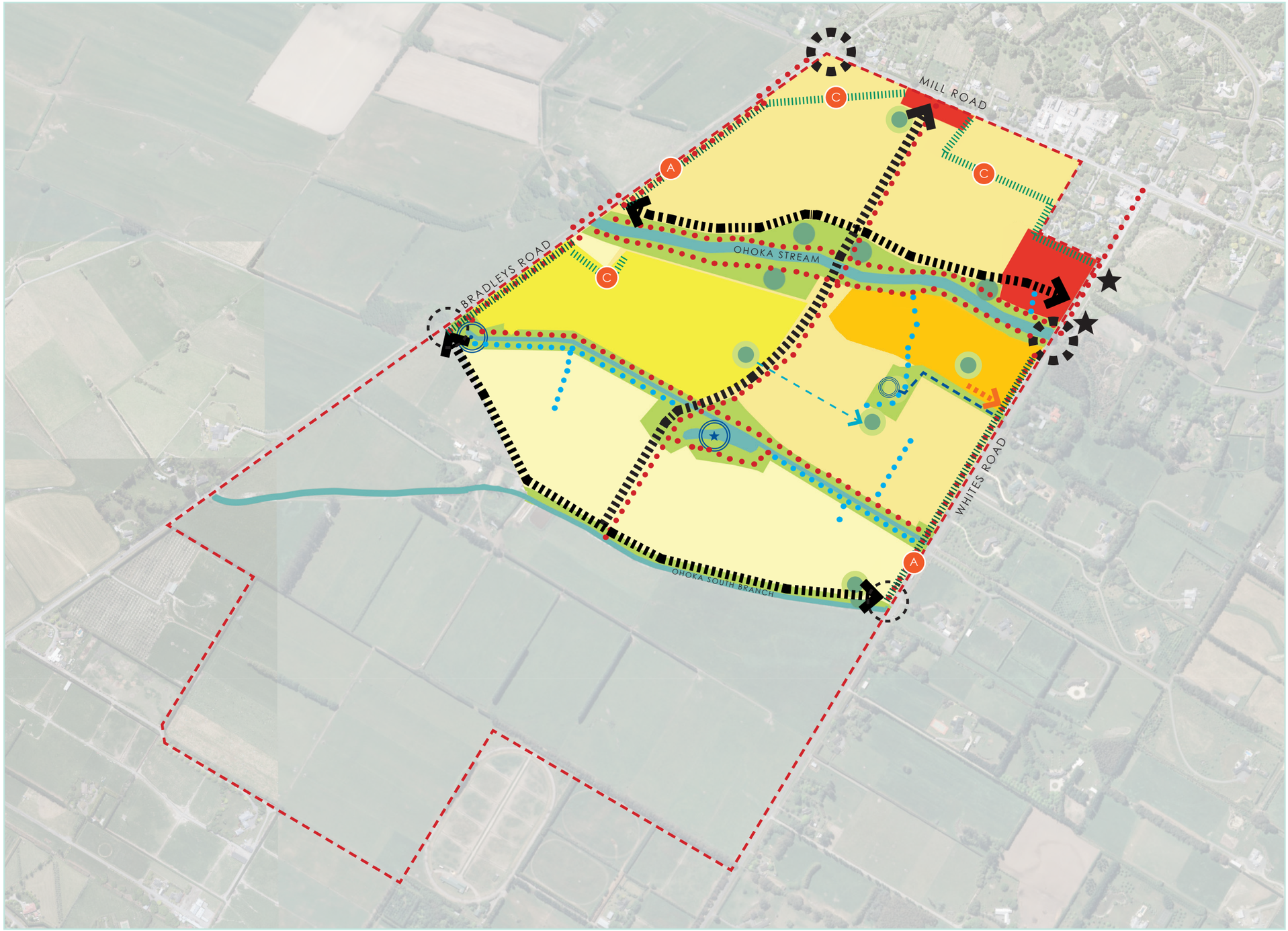
(b) The Grantor shall not further subdivide any of the lots by any means whatsoever including Cross-Lease Titles and the Unit Titles Act 1972.

(These covenants shall be called "the secured covenant" provided that the secured covenant shall be enforceable only against the registered proprietors and occupiers for the time being of the said lots and not otherwise against the Grantor and its successors).

ATTACHMENT 5: REDUCED ODP AND INDICATIVE MASTERPLAN

LEGEND

- Outline Development Plan Area
- Residential 2
- Residential 2 (Educational Overlay)
- Residential 2 (Polo Grounds Overlay)
- Residential 4a
- Business 4 Zone
- Indicative (Collector) Road
- Indicative Local Road Connection
- Village Threshold / Gateway
- Potential Minor Threshold
- Indicative Pedestrian-Cycle Network
- Indicative Pedestrian Path
- Indicative Stormwater Management Areas (size and location to be confirmed)
- Existing / Modified Waterways
- Existing Springs and Associated Setback (30m)
- Stormwater Conveyance Flow Path
- Groundwater seep and associated setback (20m)
- Groundwater Seep Channel
- Existing Pond (size and location to be confirmed)
- Green Network
- A Landscape Treatment A
- C Landscape Treatment C
- Pedestrian / Cycle Crossing



A. REDUCED OUTLINE DEVELOPMENT PLAN - 535 MILL ROAD, OHOKA

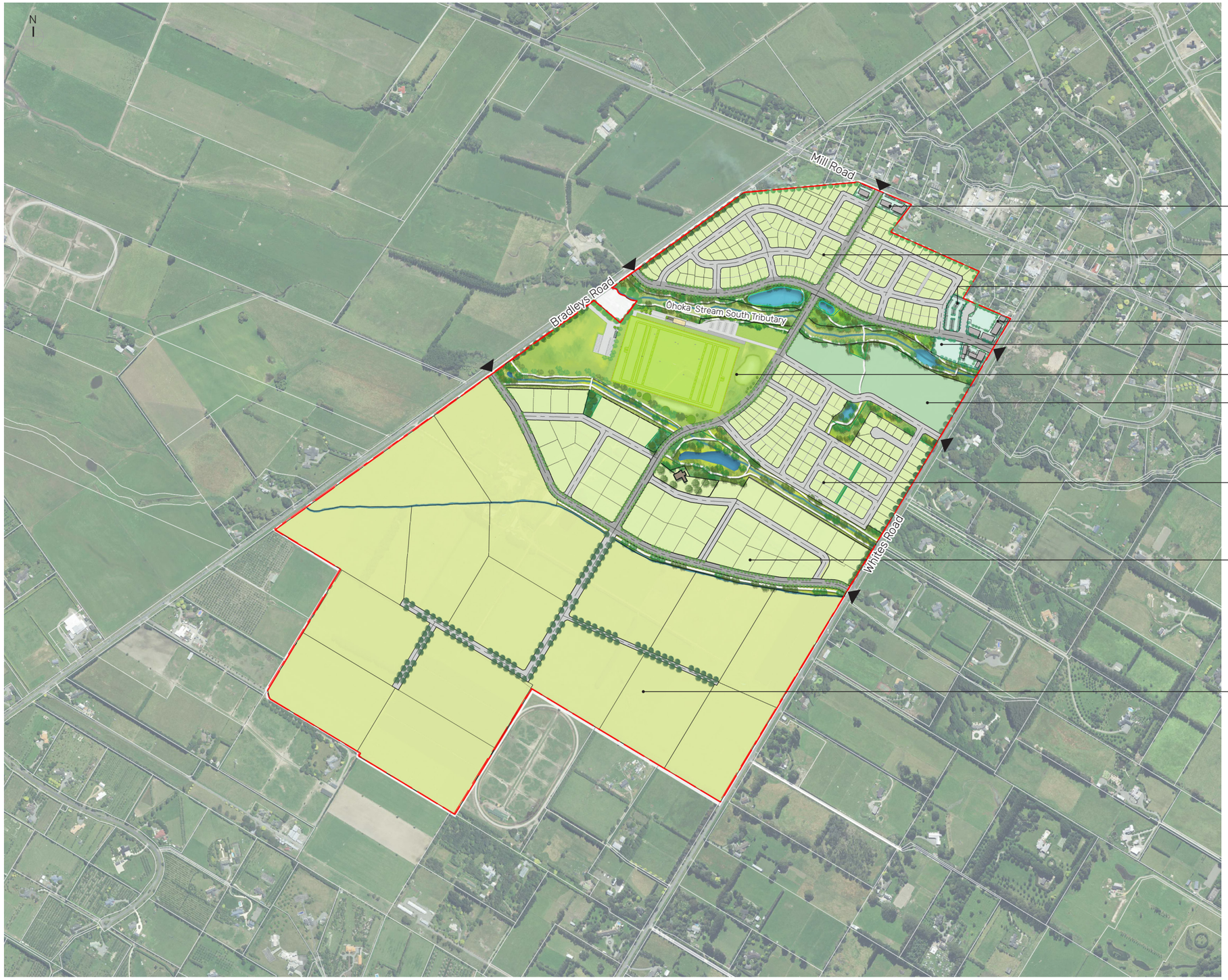
PC31 - REDUCED ODP

REDUCED OUTLINE DEVELOPMENT PLAN

535 MILL ROAD, OHOKA - PLAN CHANGE

Ref: 2021_097 RIDL - 535 Mill Road Ohoka_Reduced ODP _A

ŌHOKA ILLUSTRATIVE MASTERPLAN

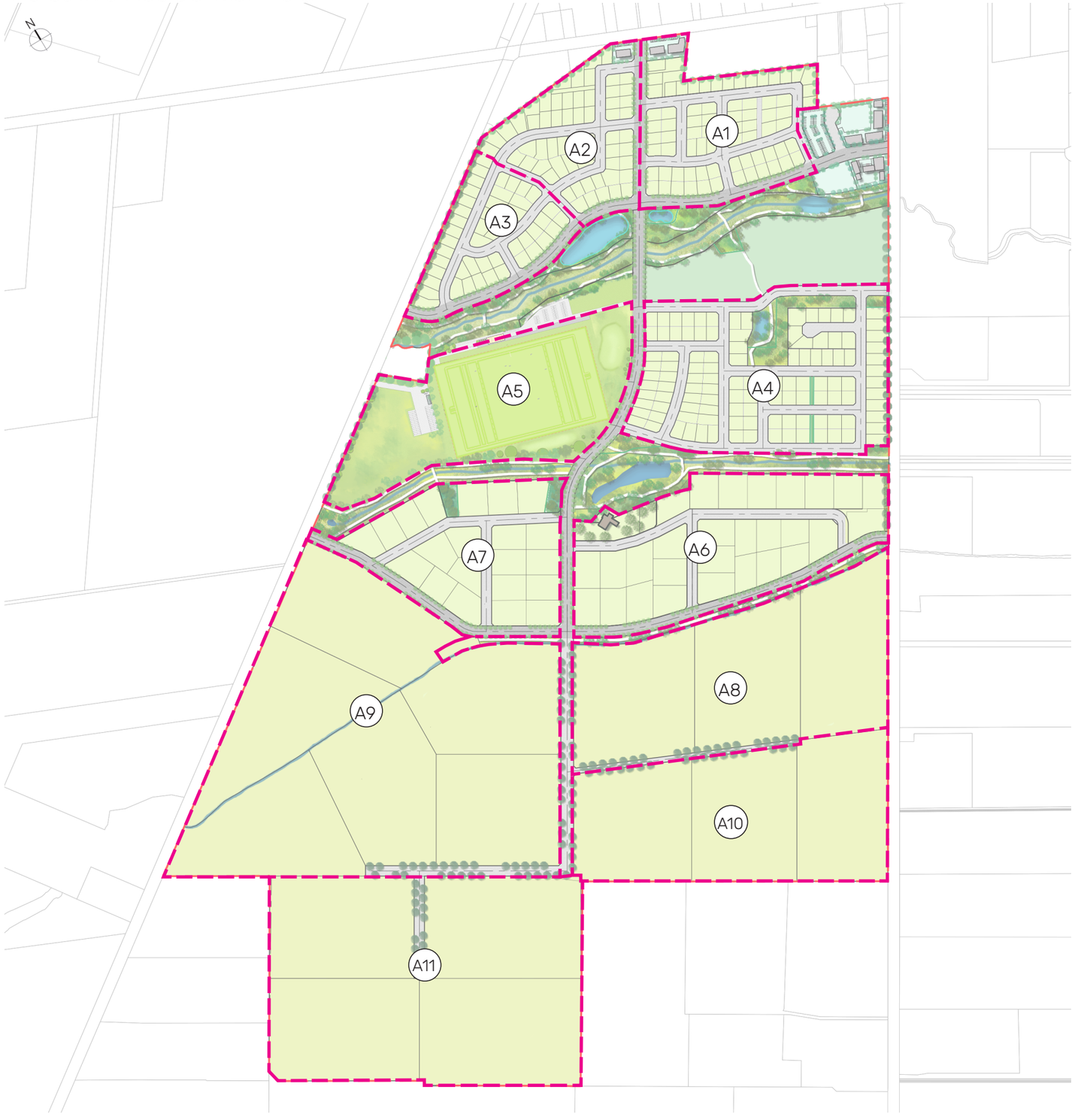


- Commercial Area
- Residential 2
- Park and Ride
- Village Hub/Commercial Area
- Area for Possible Winter Market
- Polo Field/Residential 2
- Educational Overlay/Residential 2
- Residential 2
- Residential 4a
- Rural Zone

1:10,000@A3

ILLUSTRATIVE MASTERPLAN

Indicative Residential Yield



Residential Yield Chart (Indicative)

Area	Residential 2	Residential 4A	Rural Zone	Sub-total
A1	75	0	0	75
A2	60	0	0	60
A3	47	0	0	47
A4	113	0	0	113
A5	Polo Field (82 lots - Res 2)			0
A6	0	28	0	28
A7	0	21	0	21
A8	0	0	3	3
A9	0	0	6	6
A10	0	0	3	3
A11	0	0	4	4
Total	295	49	16	**360**