

BEFORE INDEPENDENT HEARING COMMISSIONERS IN CHRISTCHURCH

TE MAHERE Ā-ROHE I TŪTOHUA MŌ TE TĀONE O ŌTAUTAHI

IN THE MATTER OF the Resource Management Act 1991

and

**IN THE MATTER OF the hearing of submissions on Plan Change 14 (Housing and Business
Choice) to the Christchurch District Plan**

Statement of Evidence of Simon Johnson

Architectural Design

Hearing Topic: Other Zones (Mixed Use)

DATED

20 SEPTEMBER 2023

QUALIFICATION AND EXPERIENCE

1. My name is Simon Johnson. I hold the position of Director at Figure and Ground, a Christchurch-based architectural practice established in 2021. I have held this position for two years.
2. I hold the qualifications of BDes(hons) from Massey University. Since graduating in 2005, I have worked in the field of architecture for the past 18 years across New Zealand and Australia. Following several years gaining experience in residential projects in New Zealand, I held the position of Senior Associate for Marchese Partners International in Brisbane, leading the design of large residential, seniors living and mixed-use projects across Australia. I returned home to Christchurch in 2016 to open the Christchurch Office for Marchese Partners, overseeing design and operations in the role as Principal of New Zealand. My focus over the past two years has predominantly been within the medium density housing sector in Christchurch, working on a range of residential projects for large developers.
3. Figure and Ground lodged building consents for over 234 residential dwellings with Christchurch City Council in the last year, highlighting my experience in the sector and familiarity with the local market. I have extensive expertise in developing residential schemes and layouts to meet typical local market demands and developer expectations, to ensure desired commercial outcomes are achieved within the parameters of local planning regulations.
4. My previous experience prior to establishing Figure and Ground includes leading the design on numerous multi-residential projects, ranging from low-scale medium density to \$300M large-scale mixed-use developments incorporating high density apartment living. This included the proposed Peterborough Quarter project located on the old Convention Centre site for which I was project design lead. This project in consultation with Development Christchurch Limited was proposed to include urban residential living up to 20 levels as part of an integrated mixed-use offering. With extensive international experience in high-density later living and multi-residential apartment projects, I have a passion for multi-age outcomes within urban environments.

CODE OF CONDUCT FOR EXPERT WITNESSES

5. Whilst this is not a hearing before the Environment Court, I confirm that I have read the Code of Conduct for Expert Witnesses (contained in the Environment Court Practice Note 2023) and I have complied with it when preparing my evidence. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise, except where I state that I am relying on the evidence of another person.

SCOPE OF EVIDENCE

6. My evidence focusses on the design workability of proposed built form standards for the Mixed-Use Zone Comprehensive Housing Precinct¹ from a technical design perspective.

EXECUTIVE SUMMARY

7. In August 2023, ChristchurchNZ engaged me to undertake design testing of the PC14 rules for the proposed Mixed Use Zone (Comprehensive Housing Precinct), to provide a view on their “workability”. I was asked to make recommendations for any changes if necessary to address any issues I identified.
8. My findings were that the built form standards largely work to achieve the zone objectives for well-designed, medium-high density perimeter block housing, including the following outcomes/observations:
 - Prioritisation of communal greenspaces, street activation and urban living.
 - Flexibility for the integration of a suitably proportionate commercial use component on ground level within a mixed-use offering.
 - Sufficient scope and flexibility in the proposed standards to ensure desired solar outcomes can be achieved relative to site orientation.
9. However, I recommend three changes to improve their workability:
 - Removal of the 1:3 ratio requirement for communal greenspace;

¹ Proposed District Plan Rule 15.10.1.3 RD3 consenting pathway.

- Removal of the restriction on ground floor outdoor living space facing the street for sites located on the south side of streets; and
- Amendment on the use of ground floor space to better accommodate the predominant apartment typology anticipated for the zone by referring to 'living space' not 'living area' (as defined).

COMPREHENSIVE HOUSING PRECINCT – BUILT FORM STANDARDS

10. A particular focus of my analysis related to the communal space, given its importance to the desired outcomes of the zone. I found that the maximum 1:3 ratio was difficult to achieve on a minimum 1,800m², in combination with other built form standards (where typical lot proportions equate to a 36m min width). It was also evident that this ratio limited communal greenspace area opportunities in some instances, where additional length/area could otherwise have been incorporated to provide increased greenspace amenity and solar access opportunities. I understand the objective of maintaining a certain ratio, however in my opinion the desired outcome of useable greenspace is still achieved by maintaining the minimum 10% area and 7m width.
11. In relation to paragraph 10 above, substantial shadow studies were undertaken as part of the analysis to determine likely massing and height outcomes (based on typical perimeter block floor plates) to test compliance with the rule requiring a minimum 3 hours continuous sunlight to 30% of the communal space at the Equinox. This did result in unique bulk and location massing outcomes depending on site orientation as shown in the attached solar diagram analysis (**Attachment A**). Generally, sites located on the north side of the street achieved a higher yield due to the favourable solar orientation. It was also evident that 4-6 level building height was possible on sites located on the southern side of the street, should the building massing be stepped appropriately to ensure the communal space solar compliance requirements are met. Whilst a range of bulk & location massing outcomes are possible within the proposed built form standards, my analysis resulted in a rotation of the communal green space at ground level within this orientation/aspect to achieve the minimum sunlight requirement (when maximising the perimeter block street building height).
12. With residential accommodation being the desired predominant use within the zone over time, in my opinion the rules would benefit from allowing street facing private outdoor space at ground level in a northern aspect. I believe privacy and service visibility issues in relation to

the desired streetscape outcomes are still addressed, with the inclusion of the minimum 3m landscape buffer requirement unique to this zone. Living spaces facing the street provide a more activated streetscape with additional yield possible as a result of facilitating this outcome.

13. In my opinion the minimum 50% 'living area' on the ground floor requirement is difficult to achieve particularly as a high proportion of residential apartment typologies are anticipated in the zone. I suggest this terminology be substituted with a similar term - 'living space' (applying the definition in chapter 2 of the District Plan). This would allow residential/habitable areas outside of just the 'living area' to be incorporated in the calculation, which in my opinion still meets the desired outcome of the zone where residential use and street activation is promoted over commercial, parking and service spaces on ground level.

14. On the matter of cycle parking, in my opinion the proposed rules sufficiently cater for the desired outcome. I agree that security of bike storage is critical to the use of these spaces, especially where a limited ratio of car parking is proposed (I have also found through our analysis carparking is difficult to integrate on the ground floor due to 'living space' area requirements). A range of bike storage should cater for vertical/horizontal, as well as electric bike charging and visitor spaces adjacent to the communal area. Whilst I agree that these storage facilities are best integrated into the buildings, I found through my analysis that independent secure structures within the communal area could also work where green space isn't needed or viable outside of the minimum requirements.

CONCLUSION

15. In conclusion, I find that the comprehensive housing precinct standards are workable in practice subject to the following changes:
 - Removal of the 1:3 ratio requirement for the communal green space;
 - Removal of the restriction on ground floor outdoor living space facing the street for sites located on the south side of streets; and
 - Amendment of the standard limiting the extent of ground floor space dedicated to 'living area' so it reads 'living space' instead.

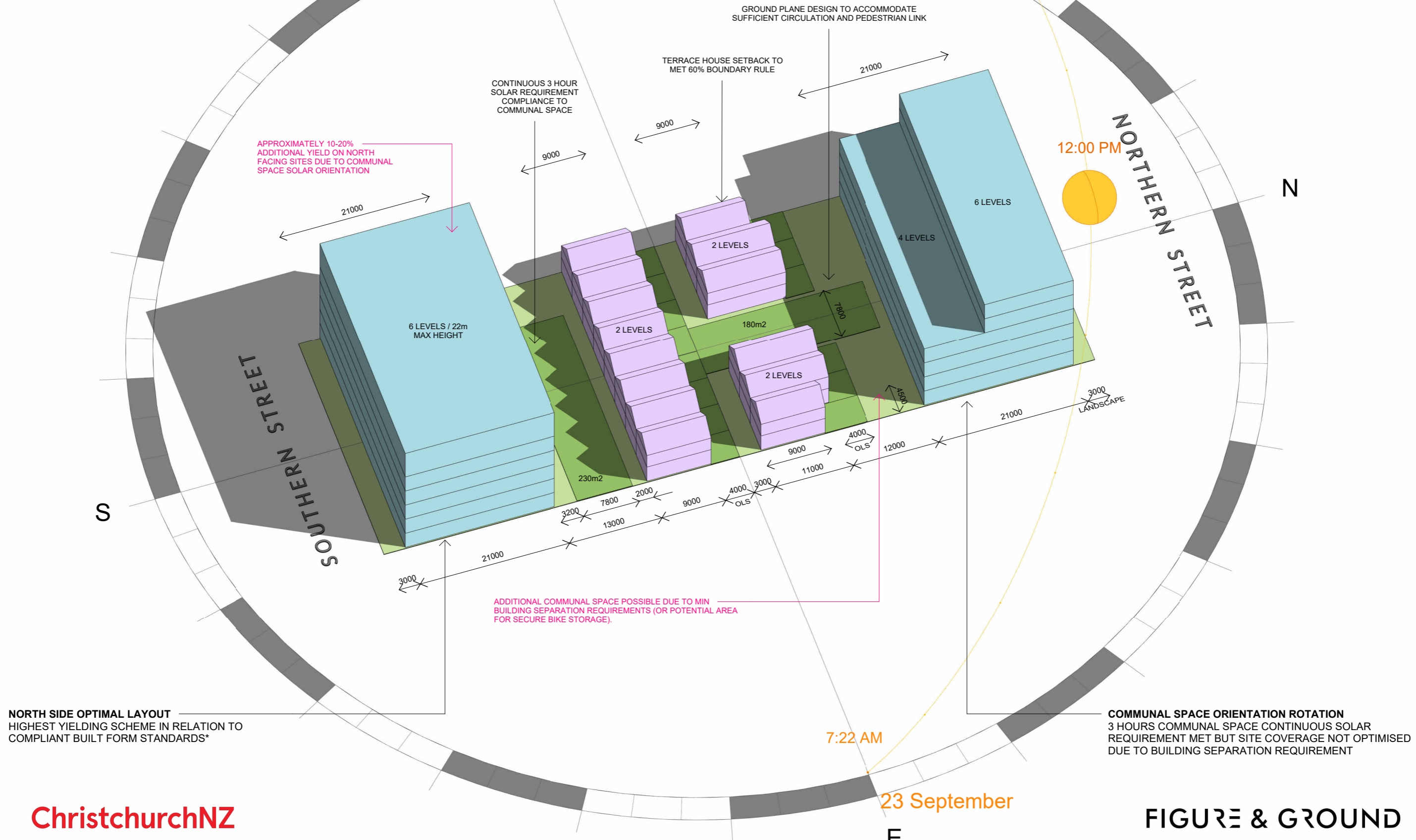
16. Proposed (tracked change) amendments to the rules to reflect these recommendations is appended to the planning evidence of Ms Radburnd.

ATTACHMENT A – SOLAR DIAGRAM ANALYSIS

MASSING SOLAR ANALYSIS:

* NOTE THE FOLLOWING RULES HAVE BEEN EXCLUDED FROM THE ANALYSIS:

- 1:3 MAX COMMUNAL SPACE RATIO (10% AND MIN 7M WIDTH MIN MAINTAINED)
- STREET FACING PRIVATE OUTDOOR SPACE AT GROUND (SOUTH SIDE ONLY)
- GROUND FLOOR 'LIVING SPACE' 50% REQUIREMENT (SUBSTITUTED WITH RESIDENTIAL LIVING AREA)



APPROXIMATELY 10-20% ADDITIONAL YIELD ON NORTH FACING SITES DUE TO COMMUNAL SPACE SOLAR ORIENTATION

ADDITIONAL COMMUNAL SPACE POSSIBLE DUE TO MIN BUILDING SEPARATION REQUIREMENTS (OR POTENTIAL AREA FOR SECURE BIKE STORAGE).

NORTH SIDE OPTIMAL LAYOUT
HIGHEST YIELDING SCHEME IN RELATION TO COMPLIANT BUILT FORM STANDARDS*

COMMUNAL SPACE ORIENTATION ROTATION
3 HOURS COMMUNAL SPACE CONTINUOUS SOLAR REQUIREMENT MET BUT SITE COVERAGE NOT OPTIMISED DUE TO BUILDING SEPARATION REQUIREMENT