

**BEFORE THE INDEPENDENT
COMMISSIONERS APPOINTED BY
WELLINGTON CITY COUNCIL**

SR471670
Ryman Karori

IN THE MATTER OF: **Resource Consent Application** for the
construction, operation and maintenance
of a retirement village

APPLICANT: **Ryman Healthcare Limited**

Summary Statement of David Patrick Wilson

Acting on behalf of: Wellington City Council

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1. My full name is David Patrick Wilson. My qualifications and experience are set out in my statement of evidence dated 19 August 2022.
2. My summary statement is a summary of the key points of my statement of evidence and addresses concerns raised by submitters at the hearing. These concerns are addressed within the relevant topic.

Stormwater - Flood Hazard effects

3. During consultation meetings it was agreed with Woods that the on-site stormwater management solution would:
 - Not increase flooding upstream or downstream along the overland flow paths/flood extents of the Site compared to the base case in terms of flood levels and/or flood extents.
 - Provide for flows to the stormwater network that would not result in increased flooding downstream with manholes spilling more than the base case in terms of flood levels and/or flood extents.
4. Woods was provided with Wellington Water's Karori Stormwater catchment model. Wellington Water's model was updated by Wood's in consultation with Wellington Water, and the updated model was used as the base to undertake an effects assessment in terms of flood risk.
5. The updated flood model was subject to Peer review by a stormwater modelling consultancy on behalf of Wellington Water. The Peer review confirmed that the updated model was fit for its purpose.
6. Flood modelling concluded that:
 - a. The modelling undertaken confirms that flood storage of approximately 1,275m³ is required for mitigation for the 1% AEP with climate change 12-hour nested storm event.
 - b. There is no flood risk to the Proposed Village within the Site for all the scenarios modelled;
 - c. There is no increased flood risk to properties upstream or downstream of the Site for all the scenarios modelled;
 - d. With 50% of the weir structure blocked, the weir will operate at a peak head of 0.61m with no increases

in water levels or flood extents on neighbouring properties.

7. The volume of the configuration proposed is 1,400m³, which exceeds the required flood storage.
8. The proposed detention system, including associated secondary flowpaths, will be privately owned and operated. Draft consent conditions includes the ongoing obligation to operate and maintain the detention structure and associated secondary flowpaths.

Stormwater - Stream Health effects

9. There are a total of 230 car parks proposed within the Site. While 190 of these carparks are under cover, the associated accessways are not. Stormwater from these areas requires treatment for contaminants including sediment, copper and zinc. The proposed use of a Stormwater360 Stormfilter® or equivalent proprietary treatment device is acceptable. The performance requirements of proprietary treatment devices are not included in Wellington Water Limited's Water Sensitive Design for Stormwater: Treatment Device Design Guideline so these have been added to the draft stormwater treatment condition.
10. Woods has used the hydraulic model assess the impact of the proposed development on in stream erosion. In paragraph 9 of his evidence My Desai has indicated that there is a negligible increase in velocities. Given the size and level of imperviousness within the local stormwater catchment this finding is in line with my expectations.
11. Woods also proposes to provide 45m³ of storage for rainwater harvesting from 1,200m² of roof area for non-potable use (landscape irrigation). To assess the appropriateness of the retention rain tank size Woods has have used the Auckland Council Stormwater Sizing Tool in the absence of an equivalent tool for Wellington.
12. The use of the Auckland Council Sizing Toll is acceptable as Wellington Water Limited's Water Sensitive Design for Stormwater: Treatment Device Design Guideline does not provide design guidance for retention and detention rain tank design. The Auckland Council Stormwater Sizing Tool is based on Auckland Council Document GD01 which is commonly used by Wellington Water as a design reference when assessing devices not covered by their design guideline.
13. The applicant has indicated that building materials will be carefully selected to ensure that the use of materials that have the potential to harm and/or pollute waterways is avoided and proposed consent conditions detail this requirement.

Wastewater

14. Ryman has collected historic information on occupancy rates and wastewater loads for this type of village. Domestic sewer loads are on average 160 litres/resident/day and an average occupancy of 1.3 for residential apartments. This includes an allowance for all core functions such as kitchens, common rooms and staff usage. They have also nominated a peaking factor of 3 for peak daily flow.
15. The supporting information has been subject to a technical review, including comparing it to typical requirements of other Councils around the country. For example, in Auckland Watercare nominates a flow of 180 litres per person and a peaking factor of 3 for residential development, with a design occupancy rate of 1.5 for residential retirement villages. Based on this review these wastewater design parameters have been accepted by Wellington Water's Chief Advisor for Wastewater.
16. Based on an initial review of the Wellington Water's Karori wastewater network model my initial 2020 report stated that a requirement for on-site wastewater detention would require careful consideration at Engineering Approval stage.
17. In response to both submissions and a request from Ryman's a more detailed review of the available local network capacity was undertaken to confirm if on-site detention would be required.
18. The review used the flows generated by its Karori Wastewater Treatment Plant 2063 Maximum Probable Development (MPD) model to assess the capacity of the local network. This model indicates that the local network has at least 2.7 L/s spare capacity.
19. A review of development within the local network catchment since the model was generated in 2017 showed there have only been 17 new connections (less than 2% of the estimated 978 existing connections). This number of new connections is less than the scale of development allowed for in the MPD scenario (30% for the entire catchment). Therefore, using the 2063 MPD flows is considered conservative for assessing current available capacity.
20. I have reviewed the developments listed in the Responsible Development Karori's hearing notes and note that all the consent developments are outside the local network catchment.
21. Based on Ryman's flowrates and peaking factor, the peak dry weather flow from the proposed development is 2.01 L/s. This is less than the spare capacity in the local network. The inflow and infiltration from the Site is generated by the model and

has not changed.

22. The Site can discharge to two different wastewater sub-catchments. Due to capacity constraints within these sub-catchments, Wellington Water will have to be consulted to ensure the flows from the Site do not exceed the capacity of the receiving sub-catchments
23. Wellington Water's current policy is that on-site wastewater detention is only required where there are capacity constraints within the local network. Trunk network capacity constraints are addressed at a whole of catchment scale.

Water Supply

24. As with the wastewater, Ryman has collected historic information on occupancy rates, water demands for this type of village. Domestic water supply demand loads are on average 200 litres/resident/day, with the same peaking factor and occupancy as wastewater. These water supply parameters reviewed and compared with the requirements on other Councils. Based on this review the proposed water supply parameters were accepted by Wellington Water's Chief Advisor for Water Supply. The review noted that the water supply for irrigation is to come from an alternative source.
25. Based on measured hydrant flow and pressure readings Woods have demonstrated, using a hydraulic model, compliance with Regional Standard for Water Services, which includes compliance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice.
26. The water supply connections will require a separate application and approval from Wellington Water.

DRAFT CONDITIONS

27. I can confirm that I have participated in 3 waters draft conditions workshop yesterday and that I am satisfied with the draft conditions tabled by Mr Turner today.



David Patrick Wilson

15 September 2022