MITCHELL DAYSH

Memorandum

To: Sandy Hsiao on behalf of Auckland Council

Date: 17 April 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council in February and March 2020, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

It is noted by Ryman that many aspects of the further information request seek information or detail that has not been requested by Auckland Council (including the Premium Team) as part of the consideration of other resource consent applications for retirement villages by Ryman – despite these villages also being in the same or similar residential zones under the Auckland Unitary Plan. As such, it is somewhat unclear to Ryman why a different approach has been adopted in the consideration of this resource consent application by the reviewers engaged by Auckland Council.

Notwithstanding the above, Ryman has sought to provide a response or additional clarification to all of the information requests.

2. CERTIFICATE OF TITLE

The further information request seeks the following with respect to the interests on the Records of Title for the Site:

1. *There are several interests on the certificate of titles (i.e. land covenant, consent notice, easements). Please confirm whether any of these are relevant to / potentially affected by the proposed development, and if so, please provide the details for these.*

The following interests are registered on the Record of Title for 223 Kohimarama Road and have been provided in **Appendix A** to this memorandum:

- D596638.2 pursuant to s461 LGA, 1974, Private Drain Certificate – Right to Drain Stormwater which does not relate to 223 Kohimarama Road.

This interest relates to other properties to the north of Selwyn College and is not impacted by the Proposed Village.

- 6272701.3 Consent Notice pursuant to s221 RMA, 1991, requiring geotechnical, overland flow and existing public stormwater and wastewater network capacity assessments to the satisfaction of Auckland Council.

The Civil Design and the Geotechnical Assessment Reports, respectively included in the Assessment of Environmental Effects ("**AEE**") as Appendices F and H, supplemented by the further information responses contained in this memo, provides compliance with this requirement.

- Easement Area A, Easement Certificate 6272701.5 – Right to Drain Stormwater in favour of Selwyn College (Lot 2 DP 3322840 at 203 Kohimarama Road) and Easement B, Easement Certificate 6272701.5 – Right to Drain Stormwater in favour of Selwyn College (Lot 3 DP 3322840 at 245 Kohimarama Road).

The stormwater design for the Proposed Village has been designed to drain stormwater from both of these Selwyn College properties. Refer to Civil Drawing 044-RCT_401_C0-021 included at Volume 3 of the AEE. Easement Area A will be varied through a separate agreement with Selwyn College to reflect the new stormwater design. Easement Area B will remain.

- C826436.4 Consent Notice issued pursuant to s221 RMA, 1991 – "*Specific Design for all building foundations and / or earthworks involving cut and / or fill shall be designed and supervised by a registered engineer experienced in soils engineering and familiar with the recommendations given in the report to Fraser Thomas Partners 6/83 and Harrison Grierson Consultants Ltd 6/92 and 13/04/93*".

The Proposed Village requires earthworks and includes construction of buildings on 223 Kohimarama Road. Tonkin and Taylor have undertaken a more recent geotechnical assessment (refer Appendix H to the AEE) and have made recommendations to address potential adverse effects. Tonkin and Taylor concluded that provided their recommendations are followed, that the Site is suitable for the Proposed Village in geotechnical terms. It is expected that the Auckland Council will propose a condition of consent that will require the implementation of these recommendations.

The following interests are registered on the Record of Title for 7 John Rymer Place and have been provided in **Appendix A** together with updated Record of Title:

- C826436.4 Consent Notice issued pursuant to s221 RMA, 1991 – "*Specific Design for all building foundations and / or earthworks involving cut and / or fill shall be designed und supervised by a registered engineer experienced in soils engineering and familiar with the recommendations given in the report to Fraser Thomas Partners 6/83 and Harrison Grierson Consultants Ltd 6/92 and 13/04/93*".

No buildings are proposed on 7 John Rymer Place, which will be used for the Proposed Village's primary access. The access will require earthworks. Tonkin and Taylor have undertaken a more recent geotechnical assessment (refer Appendix H to the AEE) and have made recommendations to address potential adverse effects. Tonkin and Taylor concluded that provided their recommendations are followed, that the Site is suitable for the Proposed Village in geotechnical terms. It is expected that the Auckland Council will propose a condition of consent that will require the implementation of these recommendations.

- C826436.6 Easement Certificate pursuant to s90A Land Transfer Act, 1952, referring to Right of Way Easement A providing access to 7 John Rymer Place (Lot 51 DP 163242) and 3 John Rymer Place, 255 and 257 Kohimarama Road (Lots 53, 54 and 55 Deposited Plan 163242) as the dominant tenements over 5 John Rymer Place (Lot 52 DP 163242).

This interest therefore is not impacted by the Proposed Village:

- C826436.10 Conditions pursuant to s461(1) LGA, 1974 – certifying that a private drain passes through and serves the within land.

The secondary access for the Proposed Village onto Kohimarama Road stays clear of this private drain. Refer to Civil Drawing 044-RCT_401_C0-021 included at Volume 3 of the AEE.

- C826436.29 Land Covenant in Transfer pursuant to s49 and s66A Property Law Act, 1952. Part of this interest was only effective until 1 January 2016.

The remaining in perpetuity parts to the covenant are not impacted by the construction of the Proposed Village as it relates to right of ways from other parts of John Rymer Place.

- Fencing covenant in Lease C949944.1.

This interest was only effective until 29 September 2016 and therefore is no longer relevant..

3. HIRB MEASUREMENTS

The further information request seeks the following with respect to the height-in-relation-to-boundary ("**HIRB**") drawings for the Proposed Village:

> 2. *In terms of the HIRB measurements, please ensure that the sections are taken at the points where the lowest ground level and highest point of the building is located.*
>
> *I.e. Plan 044-RCT-S01-A3-020 doesn't clearly show this. The section plan doesn't show the sections taken at points that intercept with the buildings and where HIRB infringements occur.*

In the first instance, it is noted that Auckland Council is required under Sections 95D(e) and 104(3)(a)(ii) of the RMA to disregard any effects on a person who has provided written approval to an application. With respect to the HIRB infringements for the Proposed Village, these relate to Buildings B02 and B04 which are located along the boundary of Selwyn College. As the Ministry of Education has provided its written approval to the Proposed Village any potential effects associated with these infringements must be disregarded.

Nevertheless, updated assessment drawings from Beca are included in **Appendix B** to this memorandum. Beca have also confirmed that the sections do reflect the HIRB at the lowest ground level and the highest point of the proposed buildings.

> 3. *Please show the HIRB infringement lengths. This is the length along the building where the infringement occurs, rather than the depth of the infringement (i.e. length along the west elevation).*

Please also update 044-ASM-S01-A0-005 to reflect corrections.

Please refer to the updated drawings included in **Appendix B** to this memorandum, which notes the HIRB infringement lengths for Buildings B02 and B04 (no other buildings infringement the HIRB standards for the Site). Drawing 044-ASM-S01-A0-005 has not been updated as a consequence of RMA Sections 95D(e) and 104(3)(a)(ii).

4. APPENDIX M

The further information request seeks the following with respect to the statutory planning framework that applies to the Proposed Village:

4. *The AEE refers to the relevant objectives and policies of the AUP being identified in Appendix M – This Appendix is missing from the application package (with Appendix L being the last appendix). Please provide Appendix M.*

The objectives and policies relevant to the Proposed Village are attached in **Appendix D** to this memorandum.

5. CONSTRUCTION MANAGEMENT PLAN

The further information request seeks the following with respect to the statutory planning framework that applies to the Proposed Village:

5. *The AEE states that "A CMP will be prepared for each stage of the construction activities on site … the CMP will establish appropriate protocols for the management of dust, noise, traffic, hours of construction …". Please provide a high level CMP; at a minimum, the objectives of the CMP should be set out.*

Ryman has not previously provided a Construction Management Plan ("**CMP**") at the time of lodging its resource consent applications for other retirement villages in Auckland (including as part of the applications for Narrowneck, Hillsborough, Lincoln Road and Scott Road). For these proposals, the consent conditions simply required a CMP to be provided at least 10 working days prior to the pre-start meeting – and with the consent conditions requiring the CMP to specify the construction timetable, construction methods, general site management arrangements, site reinstatement arrangements upon the completion of construction works.

A copy of the CMP submitted, and approved by Auckland Council for Scott Road, is attached as **Appendix E** to this memorandum.

Consistent with the above, the objective of the CMP for the Proposed Village will be to specify the construction timetable, construction methods, general site management arrangements, and site reinstatement arrangements upon the completion of construction works. As per the CMP for Scott Road, the CMP will be structured as follows:

- Construction and supervision contact details;
- Approximate construction and staging dates;

- Health and safety policy statements;
- Construction phasing and methodology;
- Site set-up plan;
- Dust control measures; and
- Construction programme.

It is also proposed that the consent conditions for the Proposed Village require the submission of a final Construction Traffic Management Plan, Erosion and Sediment Control Plan and a Construction Noise and Vibration Management Plan – which is again consistent with the approach adopted for Narrowneck, Hillsborough, Lincoln Road and Scott Road. Draft versions of each of these plans have either already been provided with the AEE or are included in this further information response (with the draft Construction Noise and Vibration Management Plan attached as **Appendix F** to this memorandum), although it is recognised that each plan will need updating once the construction methodology for the Proposed Village is finalised.

6. CONTAMINATION

The further information request seeks the following with respect to background contamination document referenced by Tonkin and Taylor.

6. *Please provide the following contamination report, which is referenced in Tonkin & Taylor's 2019 Ground Contamination Assessment: AECOM 2015, Site Investigation (Contamination) –223 Kohimarama Road Residential Development and Subdivision. Prepared for Rainbow Holdings NZ Limited by AECOM New Zealand Limited, dated 14 September 2015 (Reference 60430368).*

This information was provided to Auckland Council by email on 17 March 2020.

7. TRANSPORTATION

The further information request seeks the following with respect to transportation matters:

7. *The assisted living suites were considered as beds in the parking rate assessment. However, we consider they need to be assessed as units. This will cause an increase in the required number of parking spaces, which will be more than the provided number of parking spaces. Therefore, please provide an updated assessment of parking numbers.*

8. *Please indicate the parking spaces by way of numbers on the plan for identification. This is so that we can easily refer to specific spaces during processing or in recommended consent conditions.*

9. *Please provide information to support why the peak hour trip rates from RR453 were not considered relevant in the trip generation assessment, given the wider catchment and relevance to New Zealand conditions.*

10. *Please provide an assessment of trip generation based on RR453 peak hour trip rates (including SIDRA analysis).*

11. *Please provide plans denoting the location of accessibility parking spaces with these spaces also annotated with dimensions.*

12. *Please provide plans with the dimensions clearly marked.*

13. *Please provide an assessment on the formation and gradients of parking spaces against E27.6.3.6.*

14. *Please provide an assessment on the proposed gradients along the access connecting the two vehicle crossings. The assessment provided covers the ramps leading to car parking in the basements and access platform near the boundary only.*

15. *Please confirm whether the proposed vehicle crossings will be designed to comply with the following standard. If the standard cannot be met, please provide an assessment in terms of effects on pedestrians:*

    E27.6.4.2(3): With the exception of vehicle crossings on unsealed roads, all vehicle crossings must be designed and constructed to maintain the level, colour, and materials of the footpath to clearly identify to vehicles that pedestrians have priority.

16. *Please provide plans showing the pick-up and drop-off area clearly marked. Also, we recommend providing suitable signage and marking to clearly indicate the area for potential users.*

Commute's response to these requests for further information is attached as **Appendix G.** Furthermore, updated drawings from Beca are included in **Appendix B** to this memorandum.

8. AUCKLAND TRANSPORT MATTERS

The further information request seeks the following with respect to access off Kohimarama Road:

17. *It is noted that bollards/signage is recommended in the TIA to close off this access during school ped peak times. Please provide further details of how this will function. It should be considered that drivers may be reluctant to turn around by the time they get to this point; once they see the closure. This is particularly so from the road approach.*

Commute's response to this request for further information is attached as **Appendix G** to this memorandum.

9. STORMWATER

The further information request seeks the following with respect to drainage off Kohimarama Road:

18. *Please confirm that the existing drainage on/from Kohimarama Road (and shown on drawing 004 revD) will be incorporated into the proposed drainage shown on drawing 006 revB.*

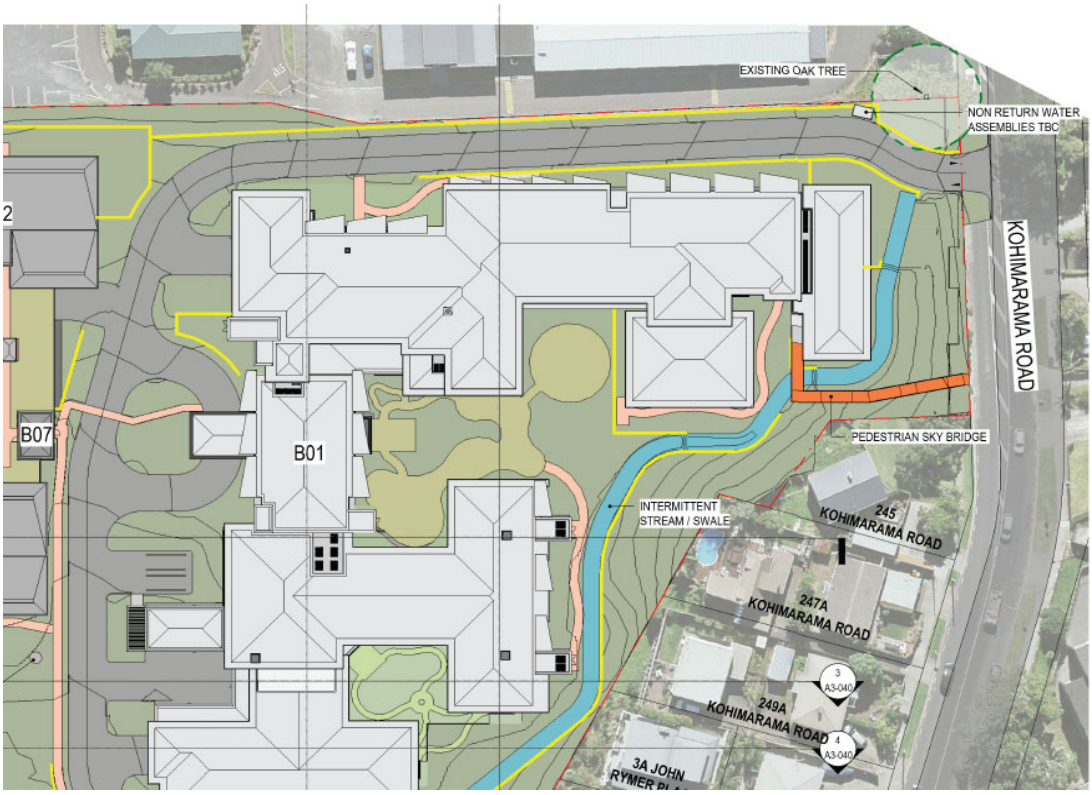
Beca's response to this request for further information is attached as **Appendix H** to this memorandum. A sketch illustrating the conveyance of the Kohimarama Road stormwater connection is also included in **Appendix C** to this memorandum.

10. RECOMMENDATIONS

The further information request makes the following recommendations with respect to the design of the Proposed Village:

a) *There is some concern around the lack of pedestrian connectivity along the "secondary" access to Kohimarama Road. It is expected that most residents would want to use that access to head towards the local bus stops on Kohimarama Road. It is recommended that appropriate footpaths should therefore be provided and amended plans provided showing this footpath connectivity.*

The main pedestrian access onto Kohimarama Road from the Proposed Village is via a pedestrian sky bridge from Building B01, to the southeast of the proposed vehicle access. Please refer to Drawing 044-RCT-S01-010 included in Volume 3 of the AEE and part inserted below, which shows the sky bridge connecting with Kohimarama Road.



b) *The proposed access off John Rymer Place must be designed and constructed so that primary surface flows from the site/proposed site road are captured within the site and are not allowed to flow to existing John Rymer Pl road drainage.*

Beca's response to this recommendation is attached as **Appendix H** to this memorandum.

c) *The proposed access off Kohimarama Rd must be designed and constructed so that primary surface flows from Kohimarama Rd do not enter the site. Sufficient evidence should be provided at RC stage to demonstrate that the Auckland Council Stormwater Code of Practice requirements will be achieved, to avoid the risk that the vehicle crossing permit application be rejected.*

Beca's response to this recommendation is attached as **Appendix H** to this memorandum.

11. STORMWATER DIVERSION / DISCHARGE

The further information request seeks the following information with respect to stormwater diversion / discharges from the Proposed Village:

19. *We acknowledge that the applicant has provided Proposed primary stormwater catchment plan Drawing No. 044-RCT_401_C0-SK085, however, we would require a separate plan, clearly showing break down catchment areas m^2, for each outfall and separating the two catchments (one draining to the existing reticulated system and one draining into the stream directly). Runoff from the catchment draining into the public stormwater network needs to be discussed with Healthy Waters and is considered a permitted activity under Chapter E8.4.1(A1) of the AUP OP.*

Beca's response to this further information request is attached as **Appendix H** to this memorandum. The sub-catchment areas of the primary network are referenced in Drawing 044-RCT_401_C0-SK085 provided in Appendix A of the Stormwater Management Plan, which is included in Appendix F to the AEE. Beca also refers to the catchment discharging to the watercourse and the catchment discharging to the public network in the updated drawings included in **Appendix C** to this memorandum,

20. *Runoff from the catchment that drains directly into the stream via the proposed six drop fall outlets will trigger a diversion and discharge of stormwater under Chapter E8.4.1 of the AUP OP because the stream will not be considered as part of the public network system. Please provide an assessment against the relevant standards for this activity.*

Section 4.2.5 of the AEE has identified the diversion and discharge of stormwater runoff from impervious areas not otherwise provided for under Rule 8.4 (A10) of the AUP as requiring consent as a discretionary activity.

Please refer to the response to Question 23 for further information relating to Standard E8.6.3.1.

21. *Please provide a planting plan specific to the stream.*

A concept riparian planting plan is included in **Appendix C** to this memorandum.

22. *Provide sizing design calculations for the proposed stormwater quality treatment device.*

Beca's response to this further information request, and the treatment calculations for the stormfilter treatment device, is included in **Appendix H** to this memorandum.

23. *Please demonstrate that the stormwater runoff into the stream complies with the Standard E8.6.3.1 requirements.*

24. *Provide sizing design calculations for the proposed hydrology mitigation device. The applicant demonstrated compliance for the catchment that drains into the stream. We will need more information for the catchment that will drain into the public system.*

Beca's response to these further information requests is attached as **Appendix H** to this memorandum, and is further supported by Drawings 044-RCT_401-C3-061, 044-RCT_401-C3-086 & 044-RCT_401-C3-087 included in **Appendix C**.

25. *Provide operation and maintenance plan (this could be conditioned).*

Beca's response to this further information request is attached as **Appendix H** to this memorandum. Ryman proposes that the requirement for a final Operation and Maintenance Plan be a condition of consent, as has been the approach for other recent Ryman villages in Auckland.

26. *Need more information regarding the existing outlet from the stream into the public reticulated system (capacity and design).*

Beca's response to this further information request is attached as **Appendix H** to this memorandum.

12. DEVELOPMENT ENGINEERING

The further information request seeks the following information with respect to development engineering matters:

27. *Please provide a clear plan differentiating the proposed private and public lines proposed for stormwater (as per Section 6.2 in the SMP) and wastewater lines as described within the SMP.*

    Note: The SMP states the watercourse to the private however when asked about this, the applicant on site said that the watercourses were public so we require clarity on this.

Beca's response to this further information request is attached as **Appendix H** to this memorandum, and updated drawings are included in **Appendix C**.

28. *What is the plan to ensure existing private SW connections from 245,247, 247a 249, 249a 251 Kohimarama Road draining to the existing stream will be incorporated in the re-alignment of the stream? Note - 3,5,7 John Rymer Place and 255, 257 Kohi Road appear to drain to the existing public SW network.*

29. *Confirm capacity of the Hynds Mega Pit structure.*

30. *Please provide additional comment and detail regarding the proposed 100m^3 retained stormwater – will this be utilised for re-use?*

31. *Please provide additional detail on the design of SWMH 2.11 including driving head available, inlet capacity etc.*

    Note: We will be recommending a covenant for the maintenance and operation of the storage tank, plus a maintenance regime for cleaning the private catch pits/ mega pit/ private SW network plus maintenance and clearing the re-aligned stream.

32. *Please provide a copy of the Operation and Maintenance Plan for the public assets within Rymans property so that we may progress with discussions with the Healthy Waters Operations Team.*

    Note: This may overlap with question 22 under Stormwater diversion, however that would be for private assets rather than public.

Beca's response to these further information requests is attached as **Appendix H** to this memorandum, and updated drawings are included in **Appendix C**.

33. *Please provide the Priestley Spreadsheet utilized for modelling. We will be looking to organize an internal peer review of the model and assumptions.*

The peer review of the stormwater model and assumptions is being undertaken by Tektus Consultants. It is expected that the peer review will be completed near the end of April 2020.

34. *Given the size of the proposed development and distance from public hydrants, please provide a written confirmation from the NZ fire service that the site can be serviced for firefighting. If required, a private hydrant may need to be installed on site*.

Beca's response to this further information request is attached as **Appendix H** to this memorandum.

35. *The Beca Civil report references 93 assisted living suites, 80 intensive care units and 123 apartments (1 bed to 3 bed). This does not align with the AEE which states 98 care rooms, 75 assisted living suites and 123 apartment units. Please address this discrepancy.*

    Note: This may also impact on parking calculations – please also confirm whether this affects the parking assessment.

Clarification of the breakdown of the unit / suite types for the Proposed Village in the AEE and the Civil Design Report was provided to Auckland Council by email on 13 March 2020.

36. *When the above is addressed, please complete the WS-WW Planning Assessment form which we will submit to Watercare as required for the scale of proposed works.*

This form was provided to Auckland Council by email on 13 March 2020. Watercare's comments are still awaited.

37. *Section 6.17 of the SMP discusses the downstream increase in flows for 100yr ARI. The section indicates that the 600 mm pipes are calculated to have 50% capacity. We have concerns regarding the potential for blockages as a result of the development proposal.*

Please Provide an assessment with the 600 mm diameter downstream pipe with 100% blockage.

Beca's response to this further information response is attached as **Appendix H** to this memorandum.

38. *Please provide a plan showing the location and extent of the existing and proposed overland flow path.*

39. *Please provide clear plans showing the inlet and outlet design details.*

Beca's response to this further information response is attached as **Appendix H** to this memorandum, while updated drawings are included in **Appendix C**.

40. *Please provide confirmation of the capacity of the proposed re-aligned stream for 100yr ARI with supporting cross sections with water levels, freeboards, proposed structures and site boundaries shown.*

41. *Please provide comments addressing inlet protection and management to ensure no blockages enter the mechanics of the stormwater system (to the outlet and attenuation tank) as these pipes are below 600 mm dia and under the Stormwater Code of Practice, 100% blockage should be accounted for.*

    I would consider the culvert query to be based around query 41:

    Please provide comments addressing inlet protection and management to ensure no blockages enter the mechanics of the stormwater system (to the outlet and attenuation tank) as these pipes are below 600 mm dia and under the Stormwater Code of Practice, 100% blockage should be accounted for.

    Under the Stormwater Code of Practice (4.3.9.8), which defines a culvert as any conduit that transfers the flows of a watercourse under a road, in this case, the overland flow path is to be piped underneath a private accessway which is an area of concern.

    In my opinion, given the sensitivities of the project, the applicant should be addressing any deviations from the Code of Practice.

Beca's response to these further information requests are attached as **Appendix H** to this memorandum.

42. *Please provide a flood risk assessment as required by E36.9(2). This should include but is not limited to:*

    - *The change in flow characteristics as a result works for the 1% AEP event to downstream properties (17 and 19 – 47 John Rymer Place) and accounting for pipe blockages as per the request above;*
    - *The effects of the overland flows on the Wastewater pump station downstream of the site; and*

- *The change in the location and extent of overland flow path and the effects offsite.*

Beca's response to this further information request is attached as **Appendix H** to this memorandum, inter alia referring to Section 6.6 of the Stormwater Management Plan for a flood hazard risk assessment. The response also includes commentary in regard to:

- 1 % AEP Floodplain;
- Overland Flow; and
- Land instability.

13. GEOTECHNICAL MATTERS

The further information response seeks the following with respect to geotechnical matters:

43. *Please provide geotechnical recommendations for the proposed earthworks including excavation and filling.*

44. *Please provide comment on the utilisation of proposed target factor of safety values.*

    - These deviate from our Code of Practice for Land Development and Subdivision Section 2 Earthworks and Geotechnical Requirements which stipulate higher factor of safety values for the transient (FoS 1.3) and seismic (FoS 1.2) conditions.

Tonkin and Taylor's response to these further information requests is attached as **Appendix I** to this memorandum.

14. GROUNDWATER

The further information response seeks the following with respect to groundwater management:

45. *In Section 9 (third bullet) of the T & T report dated October 2019 they* state "*Ryman should engage with Selwyn College in relation to monitoring and repairing any retaining wall deflection deformation and settlement effects. If a private agreement is not reached, a Construction Monitoring and Contingency Plan shall be prepared outlining the Alert and Alarm trigger levels during construction phase along the northern boundaries*".

    Please confirm whether the abovementioned Private Agreement between the two parties has been reached, and if so, provide evidence of this.

46. *In order to clarify the settlement data presented in Appendix G (Appendix Table P) – and the extent of drawdown predicted in Appendix F2 , at key locations (i.e. where College buildings are located upslope of the proposed northern retaining wall), please provide settlement plots from the edge of the excavation which show: mechanical settlement, consolidation settlement and the combined (total) settlement together with the footprint of the college building and annotate the plot with the predicted maximum differential settlement across the footprint (part footprint) of the building.*

47. *Please confirm if there are any public services beneath the access road between the college building and the retaining wall, and if there are, please provide an assessment of the effects of the proposal on these services.*

48. *Please consider the additions/changes as shown on the attached FTL annotated monitoring plan. i.e. add building settlement pins BS12 to BS16, move building settlement pin BS5 to the position shown, move ground settlement marker GS5 to a location between building and the proposed retaining wall, align retaining wall pins, ground pins and building pins perpendicular to the proposed retaining wall and provide a revised date on the monitoring plan.*

49. *In Section G8.1.2, please provide the Burland Classification of Damage -in relation to the predicted total and differential settlement for the dwellings at 3A John Rymer Place, 247A and 249A Kohimarama Road. In addition, it is noted that there appears to be missing information in the last sentence of the second bullet point of Section G8.1.2 - the effects on 249A Kohimarama Road. Please clarify.*

50. *Please consider settlement monitoring, condition surveys and/or visual inspections for the land and dwellings at 3A John Rymer Place, 247A and 249A Kohimarama Road and provide justification if monitoring, survey and inspections are not considered necessary.*

51. *Please label/identify the specific College buildings for which pre-excavation and post construction buildings are proposed both on the monitoring plan and in Table 3.2 of the draft GSMCP.*

Tonkin and Taylor's response to these further information requests is attached as **Appendix I** to this memorandum.

15. URBAN DESIGN

The further information request seeks the following with respect to urban design matters:

52. *Please update all General Arrangement plans (Plans Vol.2 – Site Plans, where applicable) to show levels of the building and the adjoining footpath / open space levels.*

Beca's response to this further information request is attached as **Appendix J** to this memorandum.

53. *Please provide additional detail sections as per the mark-ups in the attached to clearly understand the levels and interface outcomes.*

Beca's response to this further information request is attached as Appendix J to this memorandum, while the additional detail sections are included in **Appendix B**. The Auckland Council mark-up with cross references to the submitted resource consent drawings is included in **Appendix C** to this memorandum.

54. *Please provide cross sections at 1:100 or larger and include retaining heights range, fencing heights and proposed planting:*

a. *Section 5 – show the access way / road interface clearly in the cross section.*

It is considered that the dimensions are legible and that the sections are to a recognisable scale. These are standard drawings provided by Ryman to Auckland Council for all previous applications.

Beca's response to this further information request is attached as **Appendix J** to this memorandum. The updated Section 5 on Drawing 044-RCT-S01-A3-030 is provided in **Appendix B**. The accessway / road interface is included in **Appendix C**.

These views (and the other perspective Views A and B, internal to the Site) are considered to demonstrate the high quality of the architectural and landscape design, including the retaining wall planting/ treatments.

b. *Consider stepping the podium walls to create a cascading height / human scale along the main access way (Plans Vol.1: SK103).*

Clinton Bird Urban Design Limited's response to this further information request is attached as **Appendix K** to this memorandum, and the updated drawings are included in **Appendix C**.

55. *Update / provide elevations to show proposed ground / footpath including:*

a. *B01 – south west Street elevation (Plan Vol.2: A2-010) – show the street / footpath line as the views are not clear to understand the extent of blank walls along the street and the associated landscape approach?*

b. *B01 – south east street elevation (Plan Vol.2: A2-020) - show the street / footpath line as discussed in the point above.*

c. *Podium – north east street elevation for the full extent from B03 to B02 - show the street / footpath line as discussed in the point above. The interface outcome along this entrance area is not clear in terms of levels and landscape approach.*

R.A Skidmore Urban Design Limited's response to these further information requests is attached as **Appendix L** to this memorandum.

d. *B06 & B05 – large scale east elevation from the shared boundary.*

These elevations are several metres (respectively 25.3 m and 12.9 m) from the south eastern boundary of the Site. Extended elevations will not show any further detail than the sections. In this regard, refer to Sections 1 and 2 on Drawing 044-RCT-S01-A3-40, Sections A and B on Drawing 044-RCT-S01-A3-20, Section F on Drawing 044-RCT-S01-A3-31 and Section A on Drawing SK110 – which are all included in the updated drawings respectively included in **Appendix B** and **C** to this memorandum.

56. *The extent of southern aspect units proposed is considered acceptable however Indicate how outlook compliance is achieved for all residential units across all buildings, in particular those in lower levels adjoining high retaining walls.*

The AUP definition for retirement village explicitly excludes dwellings. The outlook standard H5.6.12(2)(a) – (b) relates to dwellings. As such, the only applicable standard is that for "*other habitable rooms*" with

the outlook being a minimum dimension of 1 m in depth and 1 m in width from the building face with the largest area of glazing where there is more than one window on that face. There are no non-compliances with the outlook standard H5.6.12(2)(c).

Please also refer to Clinton Bird Urban Design Limited's response attached as **Appendix K** to this memorandum. The outlook spaces for all habitable rooms have been added to the drawings in **Appendix C**.

57. *Please provide additional perspectives from viewpoints noted in the attached sketch:*

    a. *View looking south along the accessway off Kohimarama Road and include both sides of the street looking down towards the B02 interface, retaining, and landscaping response.*

As mentioned, the Auckland Council mark-up with a cross references to the submitted resource consent drawings is included in **Appendix C** to this memorandum.

Please refer to Clinton Bird Urban Design Limited's and Beca's responses respectively attached as **Appendices K** and **J**. Refer to **Appendix C** – 3D Perspective Drawing 2, View F on 044-ASM-S01-A0-005. An additional perspective included in **Appendix C** - 3D Perspective Drawing 1, View C, 044-ASM-S01-A0-004 further illustrates the view from a similar location.

    b. *View looking down the southern section of this accessway looking east and include the Porte Cochere as well as the podium interface and landscaping response.*

    c. *View towards the eastern façade of B01 and include the street interface, retaining, and landscaping response.*

A response from Clinton Bird Urban Design Limited and Beca are attached as **Appendices K** and **J** to this memorandum. The additional perspective is provided in **Appendix C** to this memorandum.

58. *Clarify the shading analysis (Plans Vol.1: A4-010 to A4-015) in terms of the extent of bulk and location considered for height standard shown in blue outline.*

The shadow study drawings have been updated to note that the blue line is the extent, bulk and location considered for the Mixed Housing Urban Zone's 11 m height standard (refer to **Appendix C** to this memorandum).

59. *Floor Plan Level 0 as it relates to pedestrian entrance and access from John Rymer Place seems to be primarily loading / service-related uses. Clarify levels around this corner and consider integrating the small extension west of the Loading In/Out and associated uses inside the basement.*

    Note: please refer to the s92 request memo prepared by Sheerin Samsudeen for preliminary design review comments.

Clinton Bird Urban Design Limited's response to this further information request is attached as **Appendix K** to this memorandum.

16. LANDSCAPE

The further information response seeks the following with respect to landscape matters:

60. *Please include a red line on the visual simulations showing the complying height limit. This is to understand the potential adverse visual dominance effects of exceeding this height.*

R.A Skidmore Urban Design Limited's response to this further information request is attached as **Appendix L** to this memorandum.

61. *Please include the height of the existing vegetation (or show the existing vegetation) within cross sections on A3-020 & A3-040.*

Information on the height of the existing vegetation has been mapped on the relevant sections in the updated drawings included in **Appendix B** to this memorandum.

62. *Please include the proposed earth mounding against the podium of cross section A on page A3-020. I'm interested to understand how the podium / carpark vents are dealt with regards to the mounded earth and whether there is a drop between the podium and slope?*

Design Squared has provided the requested drawing overlaying the landscaping on Section A on Consent Drawing 044-RCT-S01-A (refer to the updated drawings included in **Appendix C** – Cross section SK110).

63. *Please include another cross section showing the podium between cross sections B & C on A3-020.*

Beca's response to this further information request is attached as **Appendix J** to this memorandum.

64. *Please confirm the height anticipated for the palm trees within the podium, noting the 1m high raised planter, I consider the heights shown on SK103 to be unrealistic.*

65. *Please confirm whether the planting schedule included on SK102 is for the podium planting only?*

66. *Please include the proposed grades of all species within the planting schedule.*

Design Squared's response to these further information requests are attached as **Appendix M** to this memorandum.

67. *There are a number of occasions where the Landscape and Visual Effects Assessment relies on existing vegetation to mitigate effects. Please confirm whether the applicant is proposing / willing to protect this vegetation by way of a legal instrument (i.e. land covenant?).*

As set out in the Landscape and Visual Effects Assessment, the existing vegetation in the northeast of the Site will be gradually replaced with new native vegetation over time (see paragraph 6.37). In relation to the vegetation in the southwest of the Site, weed species will be removed and replaced with native species over time (see paragraph 6.40). A legal mechanism (such as a covenant) to protect the existing

vegetation is, therefore, not considered appropriate, as it would not provide for the gradual replacement of the weedy vegetation with native vegetation. As the ongoing operator of the Proposed Village, Ryman will be able to ensure the landscaping is maintained on an ongoing basis as proposed.

We also note that existing vegetation has been relied upon for mitigation purposes at other Ryman villages, without covenanting being proposed or required. The approved landscaping plan typically constrains Ryman from removing established trees at a later date without first seeking a variation to the consent conditions.

68. *Please include indicative plant schedules / palettes for the mixed exotic planting, mixed native planting, proposed trees shown on the landscape master plan. Include proposed grades at the time of planting.*

Design Squared has provided indicative plant schedules which are provided in the updated drawings included in **Appendix C** to this memorandum.

69. *Please include the 'non return water assembles' on the landscape master plan.*

    Note: please refer to the s92 request memo prepared by Ainsley Verstraeten for preliminary design review comments.

Design Squared has provided the requested information in the updated drawings included in **Appendix B**.

17. STREAMWORKS

The further information request seeks the following with respect to the proposed stream works on the Site:

70. *The stream design plans lack sufficient design detail to support that fact that the stream will become a hard bottom with woody debris elements. Please provide further details around the stream design and habitat details.*

Freshwater Solutions' response to this further information request is attached as **Appendix N** to this memorandum.

71. *The velocity does not appear to change in the SEV calculator in the daylighted channel even though the stream profile and structure is going to change. This should be captured as well – especially with the addition of multiple cascades along the channel.*

An updated SEV calculator is included in **Appendix C** to this memorandum.

72. *Please provide a streamworks methodology or fish relocation splan.*

Council confirmed by email on 15 April 2020 that the request is for both a streamworks methodology and fish relocation plan. Freshwater Solutions' and Beca's responses to this further information request are respectively attached as **Appendix N** and **Appendix H** to this memorandum.

APPENDIX A

Updated Certificate of Title

B

APPENDIX B

Updated Resource Consent Drawings

C

APPENDIX C

Updated Assessment Drawings and Calculations

D

APPENDIX D

AUP Objectives and Policies

APPENDIX E

Scott Road Construction Management Plan

APPENDIX F

Construction Noise and Vibration Management Plan

APPENDIX G

Transport Response

APPENDIX H

Civil Response

APPENDIX I

Geotechnical and Groundwater Response

APPENDIX J

Architectural Response

APPENDIX K

Urban Design Response

APPENDIX L

Landscape and Visual Response

APPENDIX M

Landscape Architectural Response

APPENDIX N

Ecological Response

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao on behalf of Auckland Council

Date: 24 April 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 20 April 2020 in respect of transport matters, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. ACCESSIBILITY PARKING

The further information request seeks the following with respect to the accessibility parking for the Proposed Village:

> *11. Please provide plans denoting the location of accessibility parking spaces with these spaces also annotated with dimensions.*

As per the Transport Assessment Report ("**TAR**"), the Auckland Unitary Plan ("**AUP**") and NZS 4121 outlines requirements for the provision of mobility parking spaces. Given there is to be a total of 192 parking spaces on-site, the requirement is to provide 5 mobility parking spaces.

A total of 8 (5 spaces in the Podium Level 2, 2 in Level 0 Building B01 basement area and 1 in Level 2 Building B01 basement area) mobility spaces are proposed. Therefore, the accessibility parking complies with NZS 4121 and AUP. All of the mobility parks will be designed as per NZS 4121.

The updated architectural drawings, showing the location of accessibility parking spaces, are included in **Appendix A** to this memorandum.

3. PARKING DESIGN

The further information request seeks the following with respect to parking design for the Proposed Village:

> *12. Please provide plans with the dimensions clearly marked.*
>
> *Please find attached snapshots. The applicant needs to assess the manoeuvring depths of parking spaces as per AUP (OP) and provide suitable assessment in terms of tracking curves, in case of infringement (which is the case as per the measurements I made).*

The attached three plans (refer **Appendix B**) show detail dimensions (width, length and manoeuvring) of a number of key parking spaces, together with some key vehicles tracking of an 85% percentile AUP car (scale 1:250 at A3).

As per Section 8.4 of the TAR, the AUP outlines dimension requirements for parking in Table E27.6.3.1.1. The Proposed Village will attract a mixture of long-term parking (residents and staff) and medium-term parking (visitors). For staff and residents, parking spaces are required to be 2.5 m wide, with a 6.7 m aisle width and a 5.0 m stall depth. A total aisle width (two rows of parking and the aisle) of 16.7 m is required. For visitors to the Site, parking spaces are required to be 2.5 m wide, with a 7.7m aisle width and a 5.0m stall depth. A total aisle width (two rows of parking and the aisle) of 17.7 m is required.

Three basement carparking areas are provided on the Site as per the drawings in **Appendix A**. Car parking dimensions and manoeuvrability has been designed in accordance with AS/NZS 2890.1:2004. Each parking space is at least 2.5 m wide (if measured to the centre of the painted line instead of measured to the inside of the line) and 5.4 m deep (marked as 5.4 m long as per AS/NZS rather than the AUP of 5.0 m long). The minimum manoeuvring distance for any one carpark is shown as 6.3 m. As such, the minimum total aisle width is 17.1 m (5.4 m + 5.4 m + 8.3 m) and as such, all spaces meet the regular user requirements of the AUP. Further, the spaces shown with greater than 6.9 m manoeuvring (which gives a total aisle depth of 17.7 m with the two 5.4 m long parking spaces) also meet the AUP for casual users.

APPENDIX A

Updated Architectural Drawings

APPENDIX B

Parking Dimensions and Tracking Drawings

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 29 April 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 17 April 2020 in respect of matters raised by Watercare Services Limited, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. FURTHER INFORMATION REQUESTS - SEWERAGE

The further information request seeks the following with respect to design flow rate for the Proposed Village:

> *In terms of the design flow rate, they have used 160L/s instead of 180L/s as stated in our specification. Additionally, there is no allowance for staff contribution of 45L/h, this needs to be addressed.*

The further information request seeks the following with respect to wet weather peaking factors for the Proposed Village:

> *No allowance has been made for wet weather peaking factors. This is acceptable if the whole development is serviced through LPS, however section 5.3 (Beca infrastructure report) states that the site will be partially serviced by gravity, this needs to be clarified as to exactly what is being serviced by gravity and what is serviced by LPS and peaking factors on the design flows applied accordingly.*

The further information request seeks the following with respect to the proposed discharge rate from the Proposed Village:

> *The proposal to service the site via a private pump station discharging to Allum St meets our requirements, however we need to know what the proposed discharge rate of this pump station will be, as this is what will be seen by our network.*
>
> *Please clarify what the proposed discharge rate from the site will be.*

Beca's response to these requests for further information is attached as **Appendix A**. Furthermore, the sketch referred to by Beca in response to the request on sewerage wet weather peaking factors is included in **Appendix B** to this memorandum.

APPENDIX A

Civil Response

B

APPENDIX B

Wastewater Drainage Mark-up

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

From: Karen Joubert

Date: 14 May 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 1 May 2020, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. HEIGHT-IN-RELATION-TO-BOUNDARY MEASUREMENTS

The further information request seeks the following with respect to the height in relation to boundary ("**HIRB**") for the Proposed Village:

> 1. *Please advise the specific plan reference which shows the lengths as I couldn't clearly identify this. The purpose of this request was just so that the infringements can be properly identified and listed within the reasons for consent.*

The lengths of the HIRB infringements for Buildings B02 and B04 are shown in clouds on Drawing 044-RCT-S01-A3-020 provided in Appendix B - Resource Consent Drawings, previously provided as part of Ryman's response to further information on 17 April 2020. However, they are also illustrated on Figures 1 and 2 below for ease of reference.

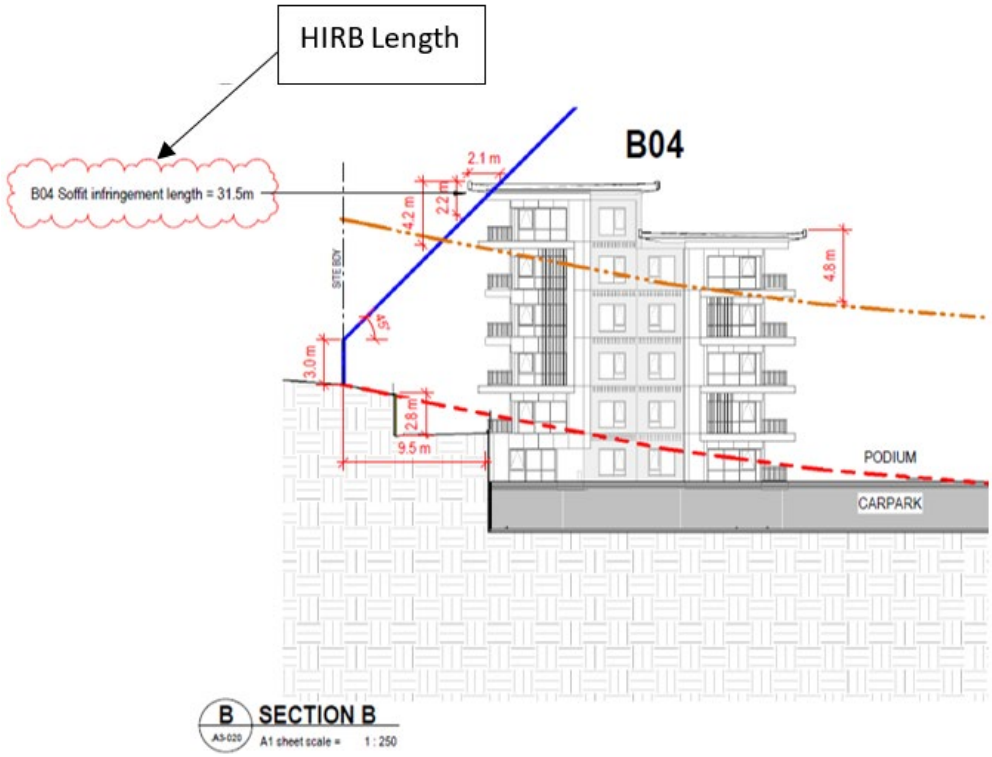


Figure 1: **HIRB Length Building B04**

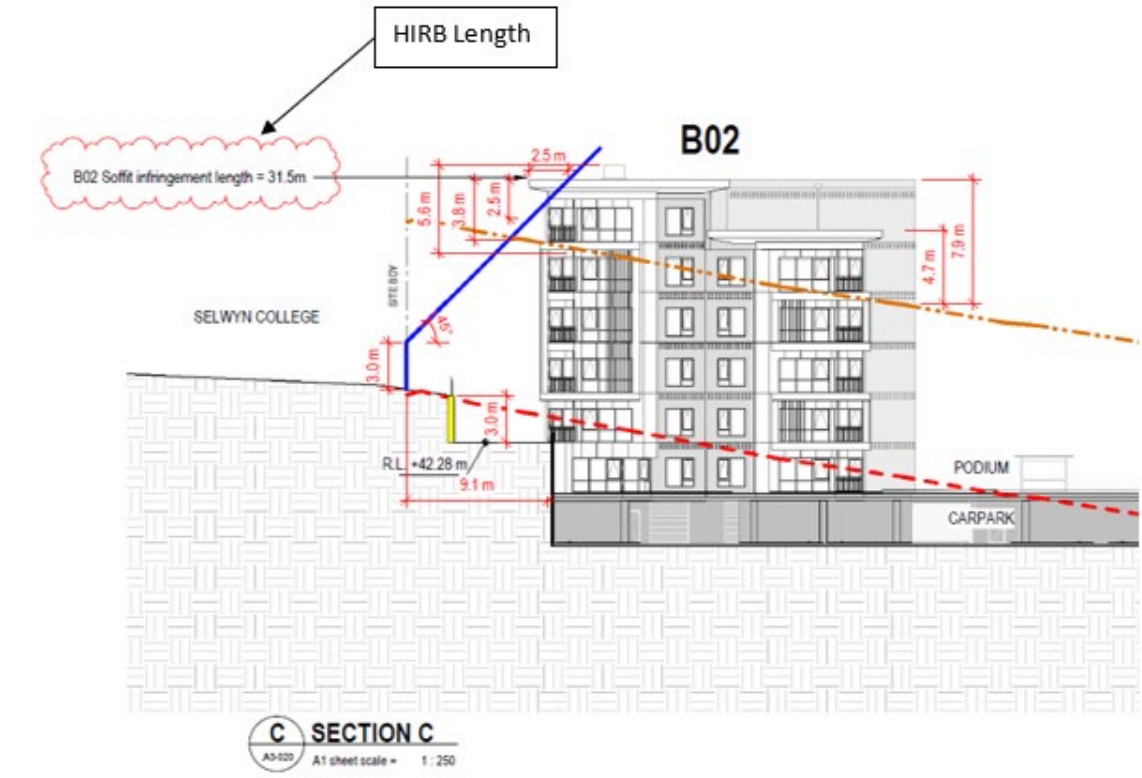


Figure 2: **HIRB Building B02**

3. STORMWATER DIVERSION/ DISCHARGE

The further information request seeks the following information with respect to stormwater diversion / discharges from the Proposed Village:

2. *We acknowledge that the applicant has provided Proposed primary stormwater catchment plan Drawing No. 044-RCT_401_C0-SK085, however, we would require a separate plan, clearly showing break down catchment areas m2, for each outfall and separating the two catchments (one draining to the existing reticulated system and one draining into the stream directly). Runoff from the catchment draining into the public stormwater network needs to be discussed with Healthy Waters and is considered a permitted activity under Chapter E8.4.1(A1) of the AUP OP.*

3. *Runoff from the catchment that drains directly into the stream via the proposed six drop fall outlets will trigger a diversion and discharge of stormwater under Chapter E8.4.1 of the AUP OP because the stream will not be considered as part of the public network system. Please provide an assessment against the relevant standards for this activity.*

4. *Please provide a planting plan specific to the stream.*

5. *Provide sizing design calculations for the proposed stormwater quality treatment device.*

6. *Please demonstrate that the stormwater runoff into the stream complies with the Standard E8.6.3.1 requirements.*

7. *Provide sizing design calculations for the proposed hydrology mitigation device. The applicant demonstrated compliance for the catchment that drains into the stream. We will need more information for the catchment that will drain into the public system.*

8. *Provide operation and maintenance plan (this could be conditioned).*

9. *Need more information regarding the existing outlet from the stream into the public reticulated system (capacity and design).*

Ryman have responded to all these stormwater matters on 17 April 2020. Further clarification and information was provided to the Council's Senior Specialist Stormwater on 8 May 2020, who subsequently confirmed that the response satisfies the information request. The memorandum is included as **Appendix A** to this memorandum for completeness.

4. URBAN DESIGN

The further information request seeks the following with respect to urban design matters:

26. *Please provide additional detail sections as per the mark-ups in the attached to clearly understand the levels and interface outcomes.*

    The sections requested are detail sections and not general arrangement sections (section F and G are fine as is). Hence should be at a large scale to clearly read the proposed retaining heights, adjoining levels of buildings / roads / footpaths, fencing and planting.

    Acknowledge the high-quality response in general however these specific locations relate to public and semi public realm of the proposal and should be clearly demonstrated.

27. *Please provide cross sections at 1:100 or larger and include retaining heights range, fencing heights and proposed planting*

    a. *Section 5 – show the access way / road interface clearly in the cross section*

    b *Consider stepping the podium walls to create a cascading height / human scale along the main access way (Plans Vol.1: SK103)*

    As above.

28. *Update / provide elevations to show proposed ground / footpath including:*

    a. *B01 – south west Street elevation (Plan Vol.2: A2-010) – show the street / footpath line as the views are not clear to understand the extent of blank walls along the street and the associated landscape approach?*

    b. *B01 – south east street elevation (Plan Vol.2: A2-020) - show the street / footpath line as discussed in the point above.*

    c. *Podium – north east street elevation for the full extent from B03 to B02 - show the street/ footpath line as discussed in the point above. The interface outcome along this entrance area is not clear in terms of levels and landscape approach.*

    d. *B06 & B05 – large scale east elevation from the shared boundary.*

    B01 & Podium - The request is to see the adjoining street level in relation to the building elevations to understand how the building / levels relate to the street, and to assess the level of amenity / surveillance available to the adjoining street environs. Existing and proposed ground contours are not relevant here. Instead please show the street as a continuous line against the elevations on 044-RCT-B01-A2-010.

    B06 & B05 – given the infringement, these buildings could potentially read imposing to the adjoining neighbours at 35 and 35A John Rymer Place. Agree elevation may not clearly show this, instead can a model perspective be included to understand this interface outcome?

29. *Please provide additional perspectives from viewpoints noted in the attached sketch:*

    a. *View looking south along the accessway off Kohimarama Road and include both sides of the street looking down towards the B02 interface, retaining, and landscaping response.*

    b. *View looking down the southern section of this accessway looking east and include the Porte Cochere as well as the podium interface and landscaping response.*

    c. *View towards the eastern façade of B01 and include the street interface, retaining, and landscaping response.*

    For a, keen to get landscape feedback from Ainsley regarding the proposed landscaping to mitigate high wall effect. (Still waiting for Ainsley to comment)For b & c, as per comments under 53 (28). Details sections needed to assess this outcome.

In the discussion with Council's urban designer on 30 April 2020 the further information required, in addition to that already provided on 17 April 2020, was identified as:

- Larger scale sections of the following:
  - Detail Section D - scale 1:200 @ A3 has been are provided on Drawing 044-RCT-S01-A3-032; and
  - Detail Sections 6 and 7 - scale 1:200 @ A3 has been are provided on Drawing 044-RCT-S01-A3-041.
- Perspectives looking from two John Rymer Place properties towards Buildings B05 and B06. The information provided is:
  - Perspective G, from 35 John Rymer Place looking towards Building B06 has been provided on Drawing 044-ASM-S01-A0-006; and
  - Perspective H, from 27 John Rymer Place looking towards Building B05 has been provided on Drawing 044-ASM-S01-A0-006.

The above-mentioned drawings are provided in **Appendix B** to this memorandum.

30. *Clarify the shading analysis (Plans Vol.1: A4-010 to A4-015) in terms of the extent of bulk and location considered for height standard shown in blue outline.*

No clarification provided.

Clarification has previously been provided in the memorandum dated 17 April 2020 stating that:

The shadow study drawings have been updated to note that the blue line is the extent, bulk and location considered for the Mixed Housing Urban Zone's 11 m height standard (refer to Appendix C to this memorandum).

However, it is further noted that the blue outline shown on the shading analysis represents the potential shadowing generated by a building complying with the built form standards related to height, height-in-relation-to-boundary and setback in the Residential – Mixed Housing Urban Zone (being those standards which have the potential to generate shading on a neighbouring property). It is provided for contextual purposes and is not intended to suggest that a continuous shadow could be expected all along the boundary of the Site. However, it does provide an understanding of what level of shading could be generated by an individual building were it to be located near the boundaries of the Site.

The shading analysis in the Urban Design Review (Appendix E to the AEE) does not solely rely on the blue outline on the shading analysis to assess the extent of shading effects caused by the Proposed Village. The analysis is cognisant of the time of day when shading will be generated on the adjacent boundaries, particularly those on John Rymer Place, and acknowledges that all dwellings will receive the sunlight hours referenced in Assessment Criteria H5.8.2(5) of the Auckland Unitary Plan – Operative in Part ("**AUP**") – notwithstanding that this assessment criteria only applies to buildings which do not comply with the HIRB standards but do comply with the alternative HIRB standard for the Mixed Housing Urban Zone.

As such, the conclusions reached in the Urban Design Review regarding the effects of shading are considered to be appropriate.

5. LANDSCAPE

The further information response seeks the following with respect to landscape matters:

> *31. Please include a red line on the visual simulations showing the complying height limit. This is to understand the potential adverse visual dominance effects of exceeding this height.*

Rebecca Skidmore advises that the purpose of visual simulations is to combine the information shown in technical drawings to provide a realistic representation of the project inserted into a photograph of the existing context. It assists an assessment of the Proposed Village 'in the round' rather than highlighting a single built form standard in the AUP.

In her opinion, it would not be appropriate to annotate the visual simulations with a line highlighting the height standard for the Residential – Mixed Housing Urban Zone, as it would distort the impression of the visual simulation and would diminish the value of the photo-realism. This approach has been consistently communicated to Council since the lead up to the presentation to the Urban Design Panel in 2019.

Given the topography and the complex arrangement of building forms in relation to that topography, a single line would not accurately represent how the building forms relate to the permitted height standard. Simply showing a line on the image does not enable the variation in perspective to accurately depict the variation in the permitted height that the building form relates to.

In Rebecca Skidmore's opinion, other technical information included in the resource consent application, including the elevations and cross sections, clearly demonstrate the extent of buildings that project above the permitted height standard.

32. *Please confirm the height anticipated for the palm trees within the podium, noting the 1m high raised planter, I consider the heights shown on SK103 to be unrealistic.*

    Satisfied in part. I would like to know how long they anticipate it taking to reach 7m in height given the restricted growing conditions and being planted at a 45L grade.

Design Squared advise that the Nikau palm trees is noted to be planted in a 100L bag not a 45L. However, this was incorrectly noted as being planted at 2 m high at time of planting, when it will be planted at a minimum of 3.5 m high at time of planting. As such, these are already aged species that are creating a trunk. Based on Design Squared's experience, the proposed Nikau palm trees will grow to 7 m in 10 years from the 3.5m starting point.

Please note the 1 m high tree planters are open on the lower sides with legs so that roots can spread into the surrounding gardens, for this reason and the size of the main box Design Squared consider that the roots have ample room to spread without restriction. The palms will also be in ideal growing conditions with the appropriate soil mix, irrigation, fertilizer and dedicated gardeners looking after them.

6. NOISE AND VIBRATION

The further information request seeks the following with respect to construction noise / vibration and operational noise:

33. *Please estimate the range of construction noise levels at affected receivers during Stage 2 earthworks.*

34. *As the minimum setback distances of 14m and 38m from vibratory rolling during Stages 2 and 4 may not be met means that structure and amenity vibration standards will not be met. If practicable, please indicate the sites which may be affected, the extent of vibration infringements in mm/s PPV and estimated infringement durations.*

35. *Please confirm that structural and amenity vibration permitted standards will be met at all adjacent buildings during vibratory sheet piling (Stage 3) (e.g. at the buildings adjacent to east and south sheet piling locations).*

36. *Noise infringements during vibratory rolling during stage 4 are predicted at the two nearest dwellings at 17 and 17A John Rymer Place with noise predicted up to 76 dB LAeq. Please estimate the duration of the noise infringement. (It is noted with mitigation in place compliance is expected).*

37. *Please provide comment about L_{AFmax} levels and compliance with the permitted standard.*

38. *Please provide comments from a suitably qualified acoustic specialist that operational noise from the site (including cumulative noise effects) will comply with permitted noise standards in AUP (OP) E25.6.2 and, if specific noise management and/or mitigation measures are necessary to ensure compliance, please describe these measures.*

Marshall Day's response to these requests for further information is attached as **Appendix C**.

APPENDIX A

Beca Civil Response

B

APPENDIX B

Architectural Drawings

APPENDIX C

Marshall Day Response

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level 1/666 Great South Road, ellerslie
po box 109640, Newmarket, Auckland 1149
e: ncarter@freshwatersolutions.co.nz
w: www.freshwatersoultions.co.nz

20 May 2020

Mitchell Daysh
PO Box 300 673
Auckland 0752

Attention: Karen Joubert

Response to Items 70, 71 and 72 of the Section 92 Request for Further Information for the Kohimarama Village Resource Consent Application

The following provides a response to Items 70, 71 and 72 of the Section 92 request for further information issued by Auckland Council for the Kohimarama Village Resource Consent Application. Requests are italicised followed by our response.

Streamworks (general overview question)

70. *The stream design plans lack sufficient design detail to support that fact that the stream will become a hard bottom with woody debris elements. Please provide further details around the stream design and habitat details.*

Stream Design and Habitat Details

A conceptual plan showing indicative proportions and location of aquatic habitats has been provided (see Attachment 1). Aquatic habitats proposed will include run (45%), riffle (32%), pool (20%) habitat sequences and four weirs (3%) that will be required due to the steep nature of the site. Channel widths and depths will be variable and reflect the intermittent, headwater and steep nature of the stream.

The stream will have a predominantly soft-bottomed streambed (weathered clay and silt) to match existing streambed characteristics with occasional areas with larger cobbles and boulders to increase instream habitat diversity (i.e., at riffles). Other exceptions to the weathered clay and silt bed will be at the four proposed weirs. The lowermost weir (1H:4V) will comprise grouted cobble and boulder. The upper three weirs will be vertical concrete structures with embedded rocks. Woody debris will be installed at selected pool locations to increase instream habitat and cover for native fish.

The lowermost weir (1H:4V) will have a lower gradient and a low flow channel formed into it that will maintain a continuous stream of water during times when the stream is flowing. The lower weir will allow good passage for climbing native fish species (e.g., banded kōkopu and eels) into a 99 m section of the new stream. The uppermost 72 m headwater section of the stream will have a notably steeper gradient and three vertical concrete weirs are proposed along this section. Banded kōkopu and eels are excellent climbers and might be able to negotiate the three upper vertical weirs. To improve fish passage it is proposed to install and maintain mussel spat rope in the low flow section of each of the upper three weirs (refer to Figure 1). This will ensure that any fish that reach the base of these weirs will be able to access the short section of stream habitat upstream. All weirs will be constructed to have pools immediately above and below them to

provide resting areas for fish. It is recommended that a condition be included in the consent that requires the installation and maintenance of mussel spat rope at the upper three weirs.

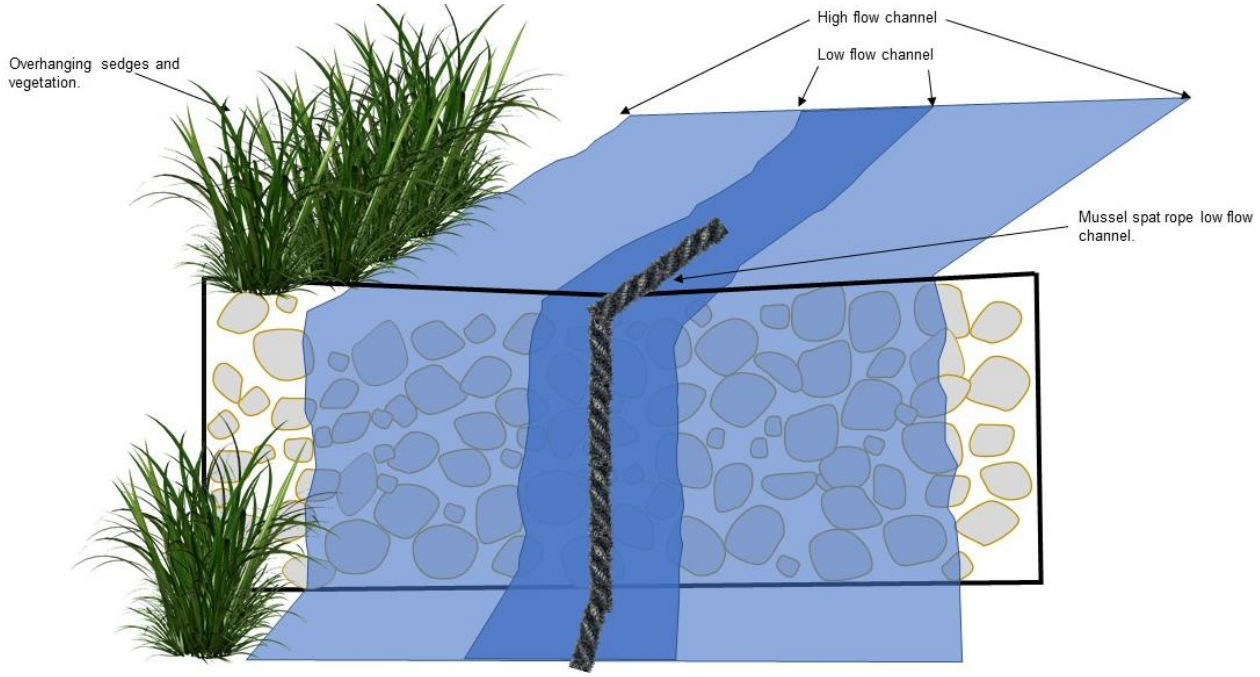


Figure 1. Conceptual drawing showing mussel spat rope in the weir low flow channel.

Updated SEV and Mitigation Assessment

SEV values for the new stream have been updated (see Table 1 in Attachment 2) to reflect refinements that have been made to the proposed stream design since the original ecological effects assessment prepared by Freshwater Solutions (2020) dated 14 February 2020.

Changes since the original assessment are outlined below and were incorporated into updating SEV scores and the mitigation assessment:

- The new stream channel has been divided into a lower (99 m) and an upper (72 m) section.
- The lower section has a single weir that will allow fish passage for eels and banded kōkopu.
- The upper section will have three vertical weirs that are assumed to be barriers to eels and banded kōkopu.
- The streambed of the new stream is expected to be predominantly weathered clay and silt with occasional areas with cobble/boulder.
- See Tables 2 and 3 in Attachment 2 for updated ECR values and mitigation calculations.
- Two ECR values of 1.78 and 2.09 were calculated and compare with the original single ECR value of 1.71.
- The updated mitigation assessment requires that 122.6 m of stream is required to be created to ensure no-net-loss.
- A total of 171 m of new stream will be created. The additional 48.4 m of stream proposed to be created over and above the 122.6 m required represents a ‘net gain’.

71. *The velocity does not appear to change in the SEV calculator in the daylighted channel even though the stream profile and structure is going to change. This should be captured as well – especially with the addition of multiple cascades along the channel.*

The SEV calculator has been updated to reflect conditions in the proposed new stream (e.g., Vbarr, Vveloc, Vlining, Vsurf, Vripfilt). See SEV calculator provided.

72. *Please provide a streamworks methodology or fish relocation plan.*

The following is a response to the 'fish relocation plan' component of Item 72. Refer to the S92 response prepared by Beca for details regarding Streamworks Methodology.

Banded kōkopu fish were observed in the section of Watercourse A proposed to be diverted. A Native Fish Relocation Plan (NFRP) is therefore required to be prepared and implemented prior to undertaking streamworks to capture and relocate any fish that may be in the section to be diverted. A Native Fish Relocation Plan (NFRP) will be prepared in accordance with best practice and methodology outlined in the New Zealand Freshwater Fish Sampling Protocols (Joy et al. 2013) and sent to Auckland Council for certification prior to streamworks. The NFRP will outline the relevant permits and authorisations required to carry out relocations (e.g., Ministry for Primary Industries Special Permit, Department of Conservation), fish capture methodology during each phase of construction, timing of fish capture, fish handling procedures, transportation of fish and the selection of a suitable relocation site.

Yours sincerely

Nick Carter
Freshwater Ecologist

Attachment 1 – Indicative Habitat Creation in New Channel

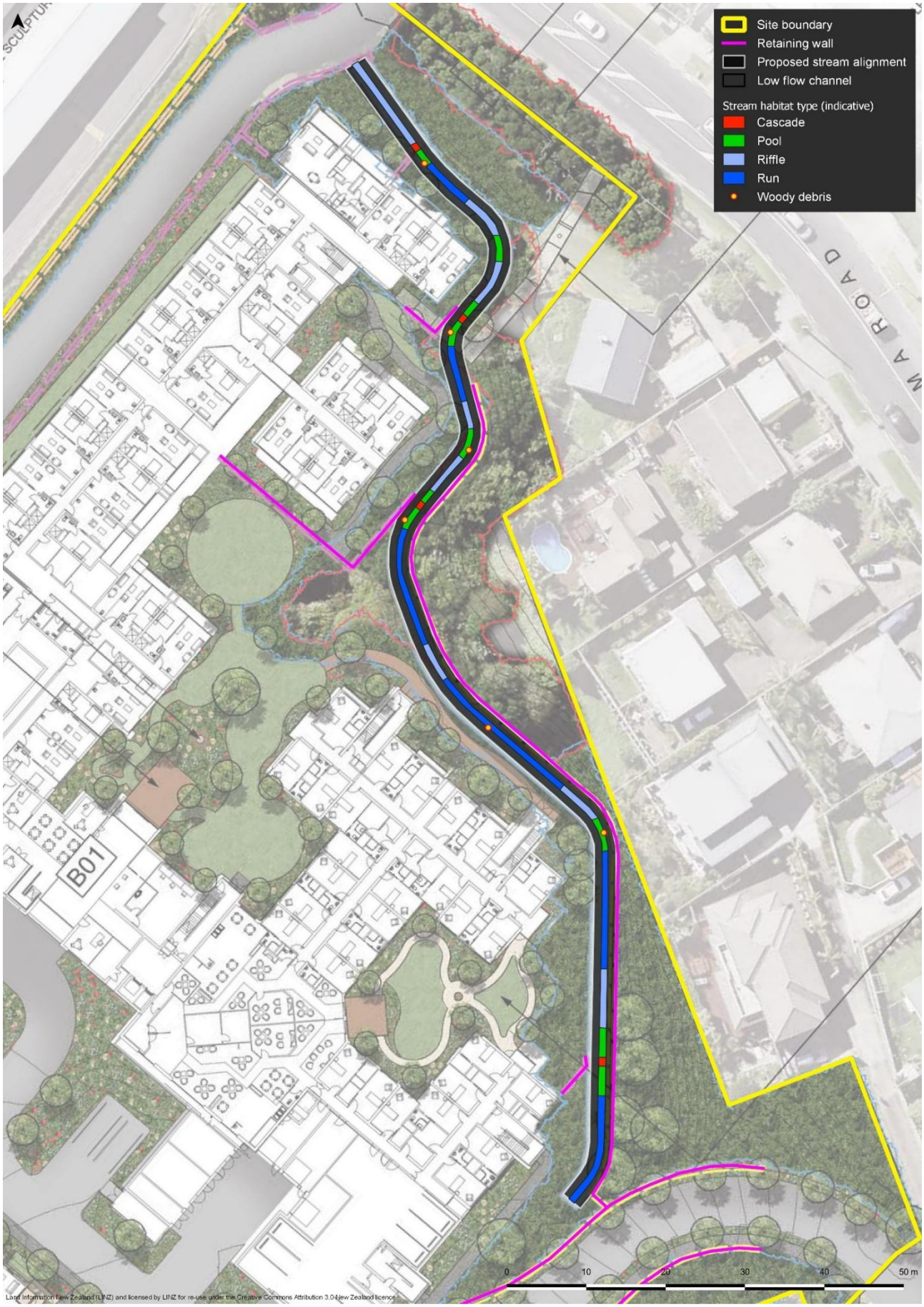


Table 1: Updated SEV data.

Function category	Function	Variable	Impact A and C SEVi-C	Impact A and C SEVi-I	Impact A and C SEVi-P	Restoration New stream - upper SEVm-C	Restoration New stream - upper SEVm-P	Restoration New stream - lower SEVm-C	Restoration New stream - lower SEVm-P
		Vchann	0.730	0.000	0.910	0.000	0.670	0.000	0.910
		Vlining	0.880	0.000	0.920	0.000	0.700	0.000	0.760
		Vpipe	0.300	0.000	0.300	0.000	0.300	0.000	0.300
	NFR	=	0.234	0.000	0.274	0.000	0.204	0.000	0.258
		Vbank	0.920	0.000	0.920	0.000	0.360	0.000	0.540
		Vrough	0.560	0.000	0.860	0.000	0.560	0.000	0.560
Hydraulic	FLE	=	0.515	0.000	0.791	0.000	0.202	0.000	0.302
		Vbarr	0.300	0.000	0.300	0.000	0.000	0.000	0.300
	CSM	=	0.300	0.000	0.300	0.000	0.000	0.000	0.300
		Vchanshape	0.970	0.000	0.990	0.000	0.880	0.000	0.920
		Vlining	0.880	0.000	0.920	0.000	0.700	0.000	0.760
	CGW	=	0.910	0.000	0.943	0.000	0.760	0.000	0.813
Hydraulic function mean score			0.490	0.000	0.577	0.000	0.291	0.000	0.418
		Vshade	0.480	0.000	0.660	0.000	0.620	0.000	0.620
	WTC	=	0.480	0.000	0.660	0.000	0.620	0.000	0.620
		Vdod	0.600	0.000	0.600	0.000	0.750	0.000	0.675
	DOM	=	0.600	0.000	0.600	0.000	0.750	0.000	0.675
		Vripar	0.700	0.000	1.000	0.000	0.650	0.000	0.650
		Vdecid	1.000	0.000	1.000	0.000	1.000	0.000	1.000
biogeochemical	OMI	=	0.700	0.000	1.000	0.000	0.650	0.000	0.650
		Vmacro	1.000	0.000	1.000	0.000	1.000	0.000	1.000
		Vretain	0.760	0.000	0.920	0.000	0.600	0.000	0.920
	IPR	=	0.760	0.000	0.920	0.000	0.600	0.000	0.920
		Vsurf	0.573	0.000	0.629	0.000	0.515	0.000	0.515
		Vripfilt	0.360	0.000	0.620	0.000	0.400	0.000	0.400
	DOP	=	0.467	0.000	0.624	0.000	0.457	0.000	0.457
Biogeochemical function mean score			0.601	0.000	0.761	0.000	0.615	0.000	0.664
		Vgalspwn	1.000	0.000	1.000	0.000	0.458	0.000	0.705
		Vgalqual	0.750	0.000	0.750	0.000	0.250	0.000	0.750
		Vgobspwn	0.800	0.000	0.800	0.000	1.000	0.000	1.000
habitat provision	FSH	=	0.775	0.000	0.775	0.000	0.557	0.000	0.764
		Vphyshab	0.595	0.000	0.747	0.000	0.735	0.000	0.770
		Vwatqual	0.444	0.000	0.498	0.000	0.608	0.000	0.547
		Vimperv	0.200	0.000	0.200	0.000	0.300	0.000	0.300
	HAF	=	0.459	0.000	0.548	0.000	0.594	0.000	0.597
Habitat provision function mean score			0.617	0.000	0.661	0.000	0.576	0.000	0.680
		Vfish							
	FFI	=							
		Vmci							
		Vept							
Biodiversity		Vinvert							
	IFI	=							
		Vripcond	0.310	0.000	0.540	0.000	0.310	0.000	0.310
		Vripconn	0.585	0.000	0.585	0.000	0.585	0.000	0.585
	RVI	=	0.181	0.000	0.316	0.000	0.181	0.000	0.181
Biodiversity function mean score			0.181	0.000	0.316	0.000	0.181	0.000	0.181
SEV score			**0.532**	**0.000**	**0.646**	**0.000**	**0.465**	**0.000**	**0.545**

Updated Mitigation Assessment

Predicted potential SEV scores for the impact stream sections (Watercourses A and C) and the proposed new stream channel (upper and lower) used to calculate ECR values are summarised in Table 2. ECR values of 1.78 and 2.09 were calculated and compares with an original ECR of 1.71 presented in Freshwater Solutions (2020).

Table 2: Predicted SEV scores and calculated ECR value.

Impact	Impact scores		Restore	Restoration scores		ECR value
	SEVi-P	SEVi-I		SEVm-P	SEVm-C	
A and C	0.646	0.000	New stream – lower	0.545	0.000	1.78
A and C	0.646	0.000	New stream – lower	0.465	0.000	2.09

Table 3 presents results of the updated mitigation assessment using the SEV and ECR approach and shows a total minimum length of 122.6 m would need to be created to ensure 'no net loss' of ecological values and function. The 122.6 m length compares with a required length of 114.3 m in the original assessment by Freshwater Solutions (2020). A total length of 171 m of new stream channel will be created. The original assessment presented in Freshwater Solutions (2020) assumed a new stream length of 165 m but this has been increased to 171 m. The difference between the stream length required and that proposed to be created represents a net gain and equates to an additional 48.4 m of stream (i.e., 171 m – 122.6 m = 48.4 m). Results of the updated SEV and mitigation assessment show that the construction of the new stream will fully mitigate potential adverse effects and result in a net overall positive ecological outcome.

Table 3: Stream mitigation calculations for the proposed new stream diversion.

Impact reach				ECR		Restoration / realigned reach					[b] Length to restore (m)	[c] Outstanding area not mitigated (m^2)
Stream	Length (m)	Width (m)	[a] Area (m^2)	ECR	ECR x Area	Stream	Length (m)	Width (m)	Area (m^2)	length required to be restored (m)		
A and C	67	0.64	42.9	1.78	76.3	New stream - lower	99.0	0.640	63.4	119.1	99.0	7.3
A and C	-	-	7.3	2.09	15.1	New stream - upper	72.0	0.640	46.1	23.6	23.6	-
											122.6	

Notes: (a) = Streambed area impacted based on channel widths at 10 SEV cross sections;

(b) = Length of channel to restore and create and calculated by ('ECR x Area' / 'Stream Width'). The length to create defaults to 1:1 length if shorter than that impacted.

(d) = Amount of streambed area that has not been mitigated for and is transferred to 'Impact reach Area' on the next row if applicable for additional compensation calculation using next available restoration reach. The outstanding amount is determined by ('Restoration reach Area available' – 'ECR x Area') / ECR value. The values in the **orange** square are outstanding amounts that are transferred to the next row in the 'Impact reach Area' column (a).

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

From: Karen Joubert

Date: 21 May 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information on landscape and visual matters requested by Auckland Council on 12 May 2020, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. VISUAL AMENITY

The further information request seeks the following with respect to the visual amenity for the Proposed Village:

1. *In order for the adverse visual effects of retaining wall 1 to be mitigated it is recommended that an alternative tree species is located in front that is able to reach a height of 6m or more. The proposed Prunus yedoensis (Flowering Cherry) is a deciduous tree and only likely to reach up to 3m within 5 years of planting. Given the retaining wall is up to 6.8m tall a taller evergreen species is recommended to more appropriately mitigate these effects and to be planted at a height of at least 3m. I note that the landscape plan also includes climbing plants and low growing shrubs which will assist in minimising these effects, however the detail of these will not be provided till the detailed design stage, and I am conscious that it may take some time for a climber to reach the top of the wall (if at all).*

2. *I'd like to also note that some of the perspectives and cross sections provided within the application could appear misleading in terms of the excessive amount of vegetation shown and heights of trees. I am relying more on my experience and the plant schedules provided to undertake my assessment.*

3. *Retaining wall 1 and the surrounding podium will create quite an enclosed space for residents. The retaining wall is also visible in some of the visual simulations from outside of the site. It is important that mitigation measures respond to both of these audiences..*

R. A. Skidmore Urban Design Limited and Design Squared's Landscape Architects' joint response to these requests for further information is attached as **Appendix A** to this memorandum.

APPENDIX A

R. A. Skidmore Urban Design Limited & Design Squared's Landscape Architects' Response

DESIGN SQUARED LANDSCAPE ARCHITECTS

R . A . Skidmore urban design ltd

Memo

To: Karen Joubert

From: Rebecca Skidmore, Sean Dixon

Date: 21st May 2020

Re: RYMAN KOHIMARAMA – COUNCIL REQUEST FOR FURTHER INFORMATION / PRELIMINARY REVIEW, LANDSCAPE AND VISUAL EFFECTS

---

1. Thank you for forwarding the comments / queries received from the Council's landscape and visual effects reviewer. These comments query the selection of plant species and their effectiveness to visually screening Retaining Wall 1, and the accuracy of planting depicted in perspectives and cross sections.

<u>Retaining Wall 1</u>

2. As noted in the Landscape and Visual Effects Assessment report that was submitted with the resource consent application, only glimpses of the wall will be obtained from the adjacent Kohimarama Road street environment (see Viewpoints 1 and 2 of the Visual Simulations). The established trees along the street frontage, together with the proposed fencing and boundary planting will provide a visuals foil when travelling from the southeast.

3. It is only in the immediate vicinity of the driveway entrance that the retaining wall will be visible. The assessment found that, given the topography, with the land falling away from the street edge, the wall would not appear as prominent.

4. For residents and visitors entering the Site from Kohimarama Road, the retaining wall will be more prominent when progressing down the slope. In our opinion, the proposed planting both at the base of the wall and at the top adjacent to the Selwyn College boundary will provide a suitable vegetated framework that complements and softens the appearance of the wall. We do not consider it is necessary to fully screen the wall with vegetation in order to mitigate adverse visual effects. The planting planting strategy includes both climbing plants at the base of the wall species at the top of the wall that will cascade down over the wall.

5. The proposed species selection along the driveway will provide both colour and visual interest with the use of Flowering Cherry trees complemented by a mix of other lower species.

6. In our opinion, the planting depicted in the plans by Design Squared do not need to be altered in order to mitigate an identified adverse visual effect. We consider that the planting proposed is suitable to integrate the retaining structures and buildings into a well vegetated landscape setting.

Accuracy of Imagery

7. The feedback provided queries the accuracy of the amount and height of vegetation depicted in some of the perspective drawings and cross sections provided.

8. The proposed site layout includes many and large areas of gardens. These will accommodate a layering of planting from low ground covers, through shrubs to larger specimen trees. The detailed design of these garden areas will be specified as the project progresses to the detailed design phase. We consider the imagery provided accurately depicts the amenity outcomes that will be achieved, acknowledging the computer graphic limitations in accurately depicting species types.

9. We note that gardens are a very important aspect of Ryman Villages that are highly valued by residents. Full time gardeners are employed on-site. This will ensure that planting is suitably established and actively managed to achieve the high amenity outcomes sought.

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 26 May 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

---

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 18 May 2020 in regard to outstanding urban design matters, pursuant to section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. URBAN DESIGN

The original further information request sought the following with respect to architectural section:

> 26. *Please provide cross sections at 1:100 or larger and include retaining heights range, fencing heights and proposed planting.*
>
> a. *Section 5 – show the access way / road interface clearly in the cross section*

The subsequent further information request seeks the following with respect to the architectural section:

> *The detail sections below does not include information in terms of clearly depicting the interface, levels, retaining heights (max) and thus the quality of the proposed semi-public realm and on-site amenity. The retained areas may require some fencing on the top as it looks to be taller than 900mm. Can the applicant please clarify this.*

The above section has been updated showing levels, retaining, fencing, planting and adjoining footpath and is provided in **Appendix A** to this memorandum. Since the Proposed Village will be a private site for safety and security reasons (as with all Ryman Villages) thus only allowing access to the residents, their visitors and staff, Ryman disagrees with the statement that the area is in the "*semi-public realm*".

The original further information request sought the following with respect to architectural sections:

> 27. *Update / provide elevations to show proposed ground / footpath including:*
>
> a. *B01 – south west Street elevation (Plan Vol.2: A2-010) – show the street / footpath line as the views are not clear to understand the extent of blank walls along the street and the associated landscape approach?*
>
> b. *B01 – south east street elevation (Plan Vol.2: A2-020) - show the street / footpath line as discussed in the point above.*

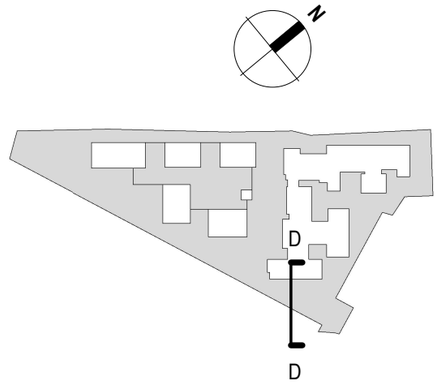
The subsequent further information request seeks the following with respect to these architectural sections:

> *The left is the GA section from the s92 response dated 17.04.2020. The detail section below (right) seem incorrect. Can the applicant please clarify this. Again, this section should clearly show levels, retaining, fencing, planting and adjoining footpath.*

The above sections have been updated showing levels, retaining, fencing, planting and adjoining footpath and is provided in **Appendix A** to this memorandum.

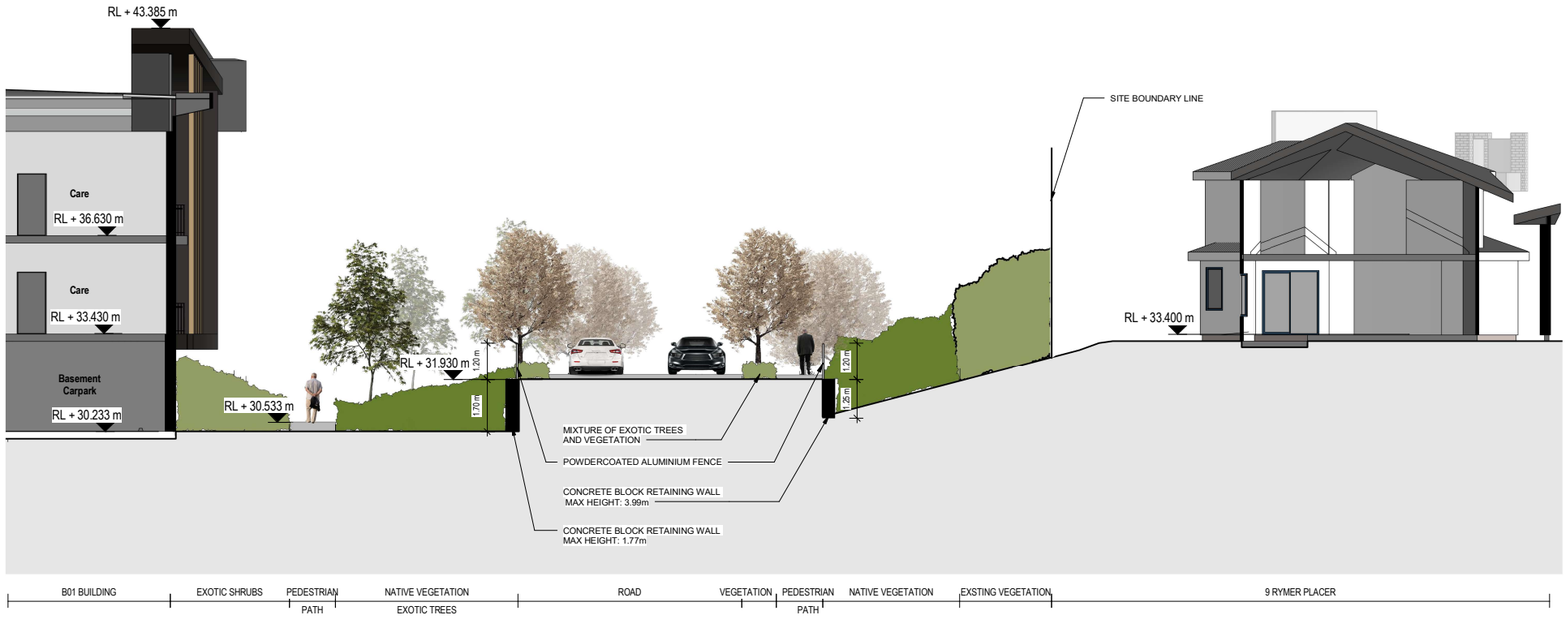
APPENDIX A

Beca Architectural Sections



B01

9 JOHN RYMER PLACE



1 (A3-030) **SECTION D**

A1 sheet scale = 1 : 100

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
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A	RESOURCE CONSENT	IJW	NZE	AOM	08.05.20

Drawing Originator: Beca

Original Scale (A1) As indicated
Reduced Scale (A3) Half A1

Design	AOM	25.10.19
Drawn	IJW	30.04.20
Dsg Verifier	LH	25.10.19
Dwg Check	NZE	25.10.19

Client: RYMAN HEALTHCARE LTD

Project: Kohimarama Retirement Village
223 Kohimarama Road - 7 John Rymer Place

Title: Sections

Discipline: ARCHITECTURE
Drawing No.: 044-RCT-S01-A3-032
Rev.: B

DO NOT SCALE

IF IN DOUBT ASK.

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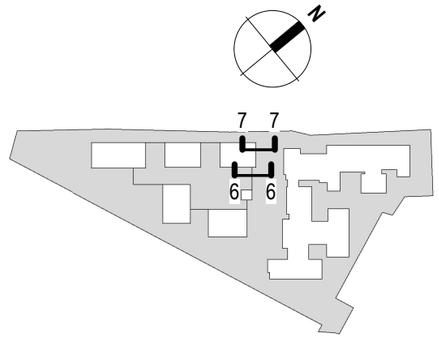

B02

1 SECTION 6

A1 sheet scale = 1 : 100

B02

2 SECTION 7

A1 sheet scale = 1 : 100

FOR INFORMATION
NOT FOR CONSTRUCTION

No.	Revision	By	Chk	Appd	Date
B	REISSUED FOR RESOURCE CONSENT	MJK	NZE	AOM	22.05.20
A	RESOURCE CONSENT	IJW	NZE	AOM	08.05.20

Drawing Originator: Beca

Original Scale (A1) As indicated
Reduced Scale (A3) Half A1

Design	AOM	25.10.19
Drawn	IJW	30.04.20
Dsg Verifier	LH	25.10.19
Dwg Check	NZE	25.10.19

Client: RYMAN HEALTHCARE LTD

Project: Kohimarama Retirement Village
223 Kohimarama Road - 7 John Rymer Place

Title: Sections

Discipline: Architecture
Drawing No.: 044-S01-A3-041
Rev.: B

DO NOT SCALE

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Document No. BIM 360://044 - Kohimarama/044-RCT_S01_SITE.rvt

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 29 May 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 18 May 2020 in regard to outstanding geotechnical matters, pursuant to section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. GEOTECH

The original further information request sought the following with respect to slope stability:

> *14. Please provide comment on the utilisation of proposed target factor of safety values.*
>
> - *These deviate from our Code of Practice for Land Development and Subdivision Section 2 Earthworks and Geotechnical Requirements which stipulate higher factor of safety values for the transient (FoS 1.3) and seismic (FoS 1.2) conditions.*

The subsequent further information request seeks the following with respect to the slope stability:

> *Not accepted, the comments from the geotech states that they are using the bridge manual for factor of safety (FoS) however this does not necessarily translate to appropriate use for habitable spaces. Therefore the use of the bridge manual for FoS remains to clarified. I also disagree with their statement that this is 'consistent with normally accepted practice'.*

Tonkin and Taylor's response to this request for further information is attached as **Appendix A** to this memorandum.

APPENDIX A

Tonkin and Taylor Response

Tonkin+Taylor

Job No: 30314
27 May 2020

Ryman Healthcare Ltd
by email

Attention: Jeremy Moore

Dear Jeremy

223 Kohimarama Road and 7 John Rymer Place, Kohimarama
Geotechnical and Groundwater Response to s92 Question 14

This letter is in response to Auckland Council's additional comments[1] to the groundwater and settlement effects assessment undertaken for the proposed development at the subject site for resource consent application. T+T response is outlined below.

Geotechnical

Question 14: Please provide comment on the utilisation of proposed target factor of safety values. These deviate from our Code of Practice for Land Development and Subdivision Section 2 Earthworks and Geotechnical Requirements which stipulate higher factor of safety values for the transient (FoS 1.3) and seismic (FoS 1.2) conditions.

We note the Council identified target design factors of safety (FoS) for the transient groundwater and seismic conditions to be 1.3 and 1.2 respectively.

In light of that request, we have reviewed the stability models under seismic conditions which didn't previously meet the required FoS and updated the groundwater conditions based on site data. The design groundwater level has been updated to a median groundwater level that is typical of an autumn/spring groundwater condition.

The revised FoS for seismic are presented in the table below. As presented below, all FoS meets the target FoS of 1.2 under seismic conditions.

Table 1: Updated slope stability factor of safety under seismic conditions

	Section A-A		Section B-B	
	Original	**Updated GWL**	**Original**	**Updated GWL**
Target FoS (Seismic)	1.0	1.2	1.0	1.2
Upper slope (Seismic)	1.0	1.21	0.96	1.35
Global (Seismic)	1.1	1.31	1.20	1.44
Lower slope (Seismic)	1.4	1.56	0.9	1.23

*PGA = 0.22g (T=1000yr return period for IL3 structures) and 0.17g for (T=500 yr return period for IL2 structures)

[1] Letter from Auckland Council to Karen Joubert titled "Preliminary request for further information" Application number BUN60353138. Updated on 18 May 2020

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PO Box 5271, Victoria Street West, Auckland 1142 P +64-9-355 6000 F +64-9-307 0265 E akl@tonkintaylor.co.nz

With the updated groundwater conditions, the calculated FoS meet those requested by Council.

Applicability

This report has been prepared for the exclusive use of our client Ryman Healthcare Ltd, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that this report will be used by Auckland Council in understanding its regulatory functions in connection with the proposed development.

Yours sincerely,

Pierre Malan

Project Director

Attachments

- Updated Slope/w results

27-May-20

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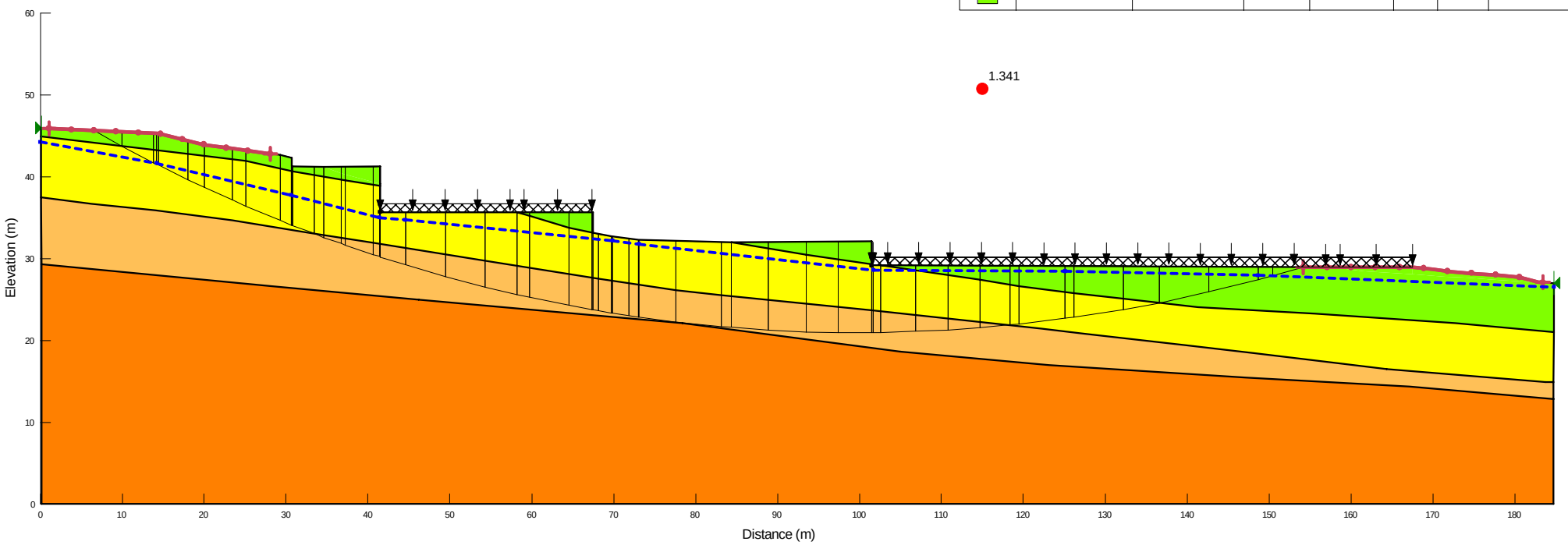
Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	ECBF Residual	Mohr-Coulomb	20	5	30	0	1
	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
	ECBF Weathered	Mohr-Coulomb	20	10	32	0	1
	Fill	Mohr-Coulomb	17	3	26	0	1



Tonkin+Taylor

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Comments:	Scale: 1:720 @ A4	Checked by: CCHE

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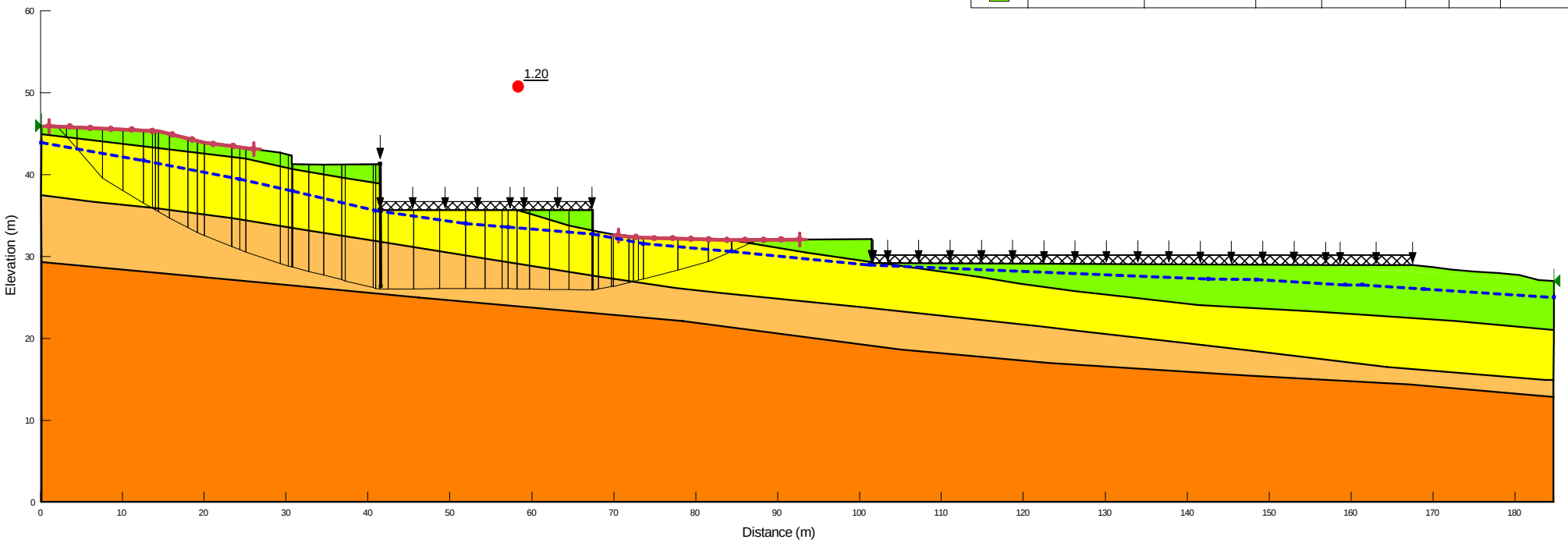
	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
	ECBF Weathered	Mohr-Coulomb	20	10	32	0	1
	Fill	Mohr-Coulomb	17	3	26	0	1



Tonkin+Taylor

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Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
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	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
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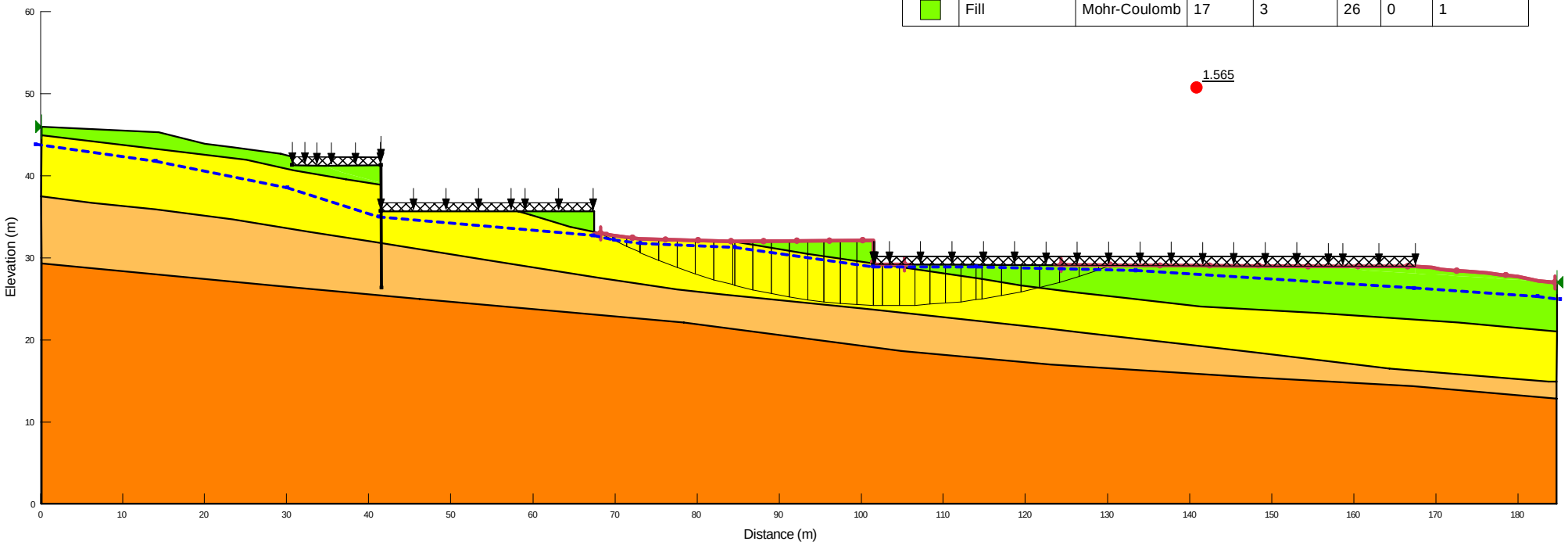
	Fill	Mohr-Coulomb	17	3	26	0	1



Tonkin+Taylor

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Comments:	Scale: 1:720 @ A4	Checked by: CCHE

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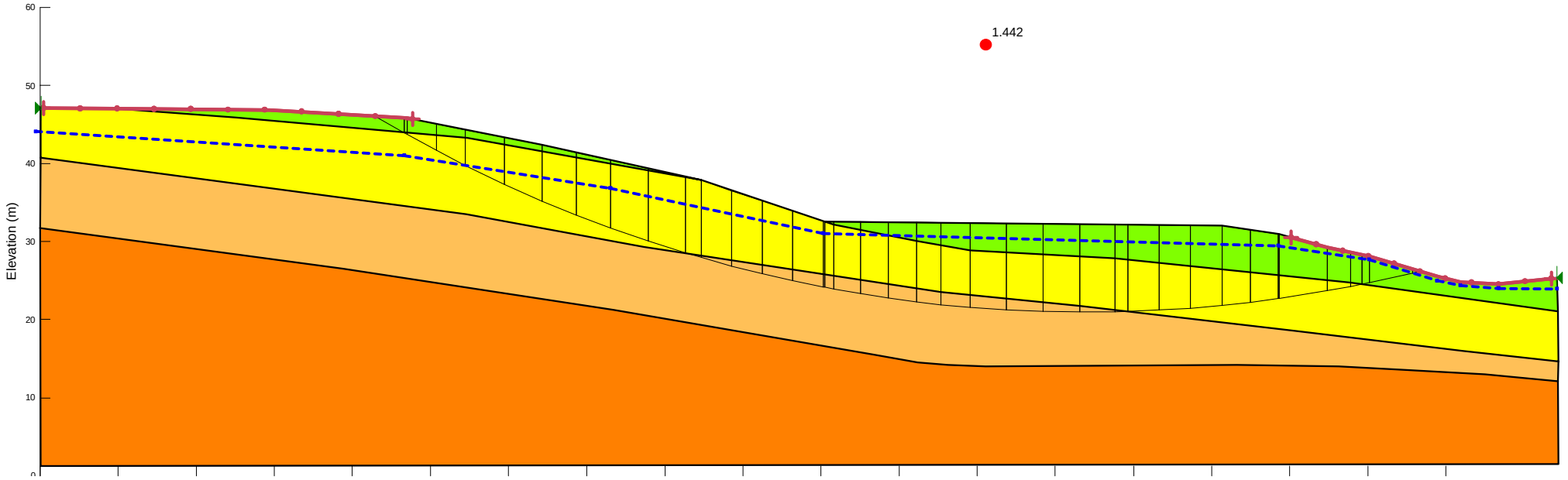
Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	ECBF Residual	Mohr-Coulomb	20	5	30	0	1
	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
	ECBF Weathered	Mohr-Coulomb	20	10	32	0	1
	Fill	Mohr-Coulomb	17	3	26	0	1

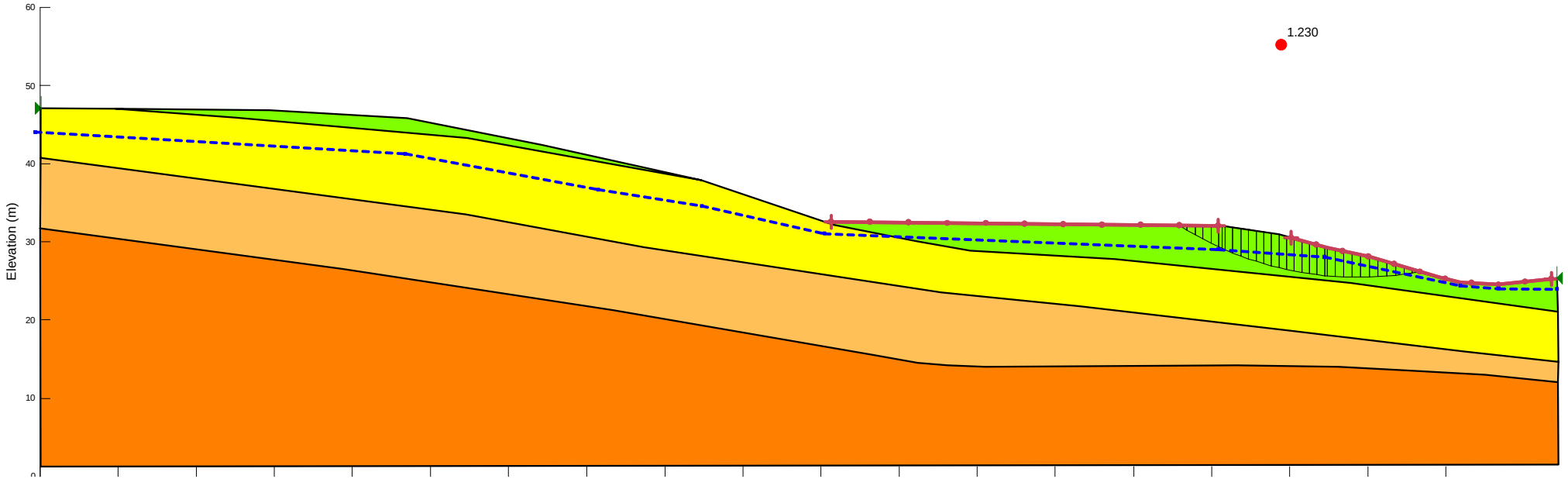


Tonkin+Taylor

Title: SlopeW B-B_Global.gsz		Job Number:30314
Analysis: Section B-B (Seismic)		Analysed by: PT
Comments:	Scale: 1:750 @ A4	Checked by: ROPI

Directory: P:\30314\WorkingMaterial\SlopeW Analyses\Section B-B\Revision 1\

Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	ECBF Residual	Mohr-Coulomb	20	5	30	0	1
	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
	ECBF Weathered	Mohr-Coulomb	20	10	32	0	1
	Fill	Mohr-Coulomb	17	3	26	0	1

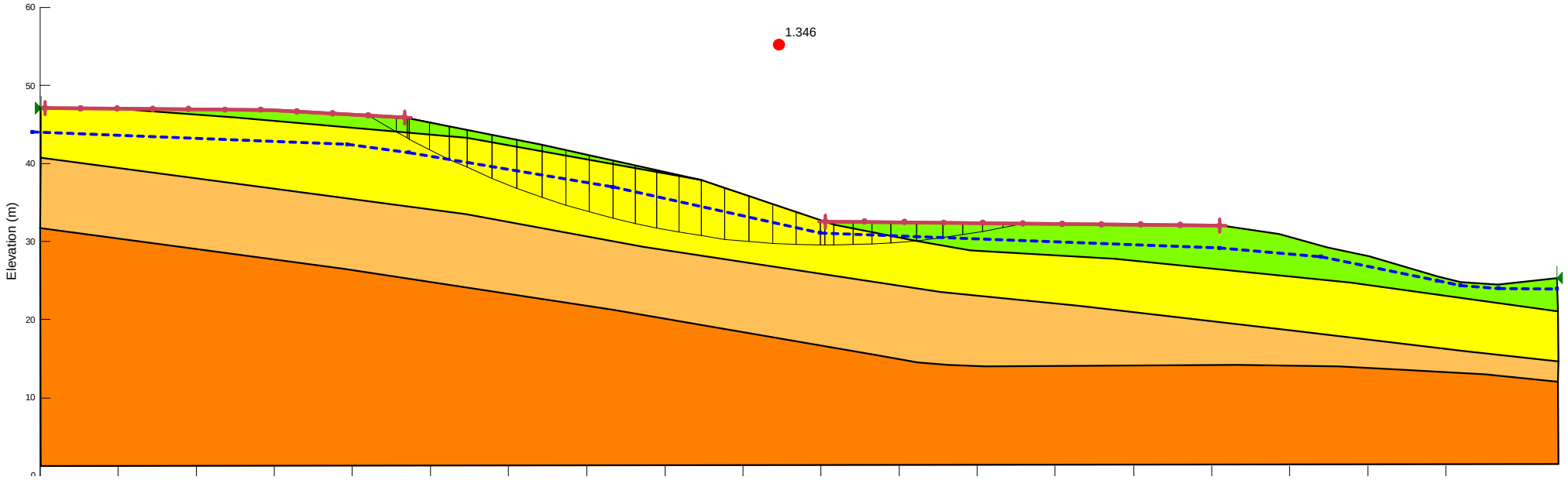


Tonkin+Taylor

Title: SlopeW B-B_Lower Slope.gsz		Job Number:30314
Analysis: Section B-B (Seismic)		Analysed by: PT
Comments:	Scale: 1:750 @ A4	Checked by: ROPI

Directory: P:\30314\WorkingMaterial\SlopeW Analyses\Section B-B\Revision 1\

Color	Name	Model	Unit Weight (kN/m³)	Cohesion' (kPa)	Phi' (°)	Phi-B (°)	Piezometric Line
	ECBF Residual	Mohr-Coulomb	20	5	30	0	1
	ECBF Unweathered Rock	Mohr-Coulomb	22	20	35	0	1
	ECBF Weathered	Mohr-Coulomb	20	10	32	0	1
	Fill	Mohr-Coulomb	17	3	26	0	1



Tonkin+Taylor

Title: SlopeW B-B_Upper Slope.gsz		Job Number:30314
Analysis: Section B-B (Seismic)		Analysed by: PT
Comments:	Scale: 1:750 @ A4	Checked by: ROPI

Directory: P:\30314\WorkingMaterial\SlopeW Analyses\Section B-B\Revision 1\

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

From: Karen Joubert

Date: 12 June 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 18 May 2020, pursuant to Section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. NOISE AND VIBRATION

The further information request seeks the following with respect to noise effects:

1. *Please provide a list of all the site addresses that are predicted to receive noise infringements, and include:*
    a. *The noise levels experienced at that property/ extent of infringement(s);*
    b. *The total duration that the infringement will occur (and whether it is continuous or discontinuous);*
    c. *Which stage and season(s) (1st/2nd/3rd) the infringements are expected at the property.*

Please include this information in an appendix in the CNVMP..

Marshall Day's response to these requests for further information is attached as **Appendix A**. The updated Draft Construction Noise and Vibration Management Plan ("**CNVMP**") is attached as **Appendix B**.

APPENDIX A

Marshall Day Response

B

APPENDIX B

Updated Draft Construction Noise and Vibration Management Plan

MARSHALL DAY Acoustics

84 Symonds Street
PO Box 5811
Victoria Street West
Auckland 1142 New Zealand
T: +64 9 379 7822 F: +64 9 309 3540
www.marshallday.com

11 June 2020

Ryman Healthcare Ltd
c/- Mitchell Daysh
PO Box 300 673
Auckland 0752

Attention: Richard Turner

Dear Richard

FURTHER S92 RESPONSE

Auckland Council have reviewed our response to their initial queries[1] and have one further query upon following that review. The request is shown below.

1. *"Please provide a list of all the site addresses that are predicted to receive noise infringements, and include:*
    a. *The noise levels experienced at that property/ extent of infringement(s);*
    b. *The total duration that the infringement will occur (and whether it is continuous or discontinuous);*
    c. *Which stage and season(s) (1st/2nd/3rd) the infringements are expected at the property.*

Please include this information in an appendix in the CNVMP."

Our response is given below.

In our assessment report[2] and initial s92 response, we identified that there would be risk of exceeding the construction noise limits at nearby receivers during Stage 2 earthworks and Stage 3 sheet piling. We understand that it is Ryman's intention for the earthworks phase of the project (i.e. retaining and cut fill works) to be completed in one single 8 to 9 months period. As such, it will be spread out over one season of 30 weeks. However, the final duration of the earthworks phase will depend on the earthwork's method, site specific factors, and contractor agreement, which cannot be confirmed at this stage. As such, it may stretch over more than one season.

Nevertheless, due to its transient nature and regardless of the number of seasons, the period where a noise exceedance is experienced by any one particular receiver will be limited and will likely not be spread across multiple seasons. The total duration of noise infringement will be the same regardless of how many earthworks season there will be because once the work has been completed in front of a receiver, no more will be required.

We noted in our initial s92 response that because earthworks are transitory, no receiver would be exposed to noise levels above the permitted levels for more than two weeks. We consider that this is still to be the case given that earthworks can, indicatively, be completed in one single 8 to 9 months period.

Table 1 overleaf is the requested table in response to this further information request.

[1] Detailed in our letter Lt 001 r01 20200185 dated 11 May 2020

[2] Ro 001 r03 20200185 dated 16 April 2020

Table 1: Predicted noise exceedances without mitigation

Receiver	Predicted noise level (dB L_{Aeq}) (07:30 – 18:00)	Indicative total duration of exceedance (weeks)	Continuous or discontinuous exceedance?	Exceedance during which stage of construction
3 John Rymer Place	71	2	Discontinuous	2
5 John Rymer Place	87	2	Discontinuous	2
9 John Rymer Place	85	2	Discontinuous	2
11 John Rymer Place	76	2	Discontinuous	2
15 John Rymer Place	72	2	Discontinuous	2
17 John Rymer Place	82	2	Discontinuous	2
17A John Rymer Place	82	2	Discontinuous	2
19 John Rymer Place	85	2	Discontinuous	2
19A John Rymer Place	85	2	Discontinuous	2
27 John Rymer Place	82	2	Discontinuous	2
27A John Rymer Place	85	2	Discontinuous	2
29 John Rymer Place	76	2	Discontinuous	2
35 John Rymer Place	84	2	Discontinuous	2
35A John Rymer Place	84	2	Discontinuous	2
1/37 John Rymer Place	76	2	Discontinuous	2
2/37 John Rymer Place	84	2	Discontinuous	2
43 John Rymer Place	73	2	Discontinuous	2
45 John Rymer Place	76	2	Discontinuous	2
45A John Rymer Place	85	2	Discontinuous	2
47 John Rymer Place	84	2	Discontinuous	2
49 John Rymer Place	83	2	Discontinuous	2
226 Kohimarama Road	72	2	Discontinuous	2
232 Kohimarama Road	71	2	Discontinuous	2
247A Kohimarama Road	74	2	Discontinuous	2
247A Kohimarama Road	74[1]	1	Discontinuous	3 (Sheet Piling for northern most lift shaft)
247 Kohimarama Road	75	2	Discontinuous	2
247 Kohimarama Road	72[1]	1	Discontinuous	3 (Sheet Piling for northern most lift shaft)

Receiver	Predicted noise level (dB L_{Aeq}) (07:30 – 18:00)	Indicative total duration of exceedance (weeks)	Continuous or discontinuous exceedance?	Exceedance during which stage of construction
249A Kohimarama Road	76	2	Discontinuous	2
251 Kohimarama Road	71	2	Discontinuous	2
255 Kohimarama Road	73	2	Discontinuous	2
257 Kohimarama Road	71	2	Discontinuous	2

[1] Includes mitigation using a 3m noise barrier as noted in our report.
[2] Note we have not considered 3A John Rymer Place as it is a vacant lot.

Yours faithfully

MARSHALL DAY ACOUSTICS LTD

Micky Yang

Acoustician

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 21 July 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 18 May, 17 June and 9 July 2020 in regard to outstanding stormwater, fire hydrant and streamworks matters, pursuant to section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. STORMWATER

Following the discussion held with Council on 15 June 2020, the following were confirmed as the outstanding stormwater matters:

4. *Please provide additional detail on the design of SWMH 2.11 including driving head available, inlet capacity etc.*

6. *Please provide the Priestley Spreadsheet utilised for modelling. We will be looking to organise an internal peer review of the model and assumptions.*

   Update: Ryman will be seeking peer review from Tetkus.

8. *Section 6.17 of the SMP discusses the downstream increase in flows for 100yr ARI. The section indicates that the 600 mm pipes are calculated to have 50% capacity. We have concerns regarding the potential for blockages as a result of the development proposal. Please provide an assessment with the 600 mm diameter downstream pipe with 100% blockage.*

11. *Please provide confirmation of the capacity of the proposed re-aligned stream for 100yr ARI with supporting cross sections with water levels, freeboards, proposed structures and site boundaries shown.*

13. *Please provide a flood risk assessment as required by E36.9(2). This should include but is not limited to:*

- *The change in flow characteristics as a result works for the 1% AEP event to downstream properties (17 and 19 – 47 John Rymer Place) and accounting for pipe blockages as per the request above.*

Beca's response to the above requests for further information is provided in **Appendix A** to this memorandum. The updated Stormwater Management Plan is provided in **Appendix B**.

3. WASTEWATER AND WATER SUPPLY

17. *Given the size of the proposed development and distance from public hydrants, please provide a written confirmation from the NZ fire service that the site can be serviced for firefighting. If required, a private hydrant may need to be installed on site.*

    They have stated that 5 hydrants will be located on site, however I have not been able to find these on a plan to see where they are located. Only one appears to be shown in the Concept Design Sewer and Water Plan (36E) Can they please point me in the right direction if I have missed this? Also please request NZ fire service to review this and provide the writing confirmation that the site can be serviced for fire fighting. We cannot confirm fire fighting capabilities.

Fire Emergency New Zealand ("**FENZ**") require hydrants to be installed on the internal accessway and on the podium outside Buildings B04, B05, and B06 but these are to be part of the stairwell hydrant riser systems. FENZ has identified two fire hydrant locations on the internal accessway as depicted in the plan included **Appendix C** to this memorandum. The formal written approval from FENZ will be provided as soon as it becomes available.

4. STREAMWORKS PHASING

Are you able to get an email confirmation from Ryman in regards to how long they think the temporary diversions will be in place before the flows are diverted back into the new stream channel? I need to reference this in my memo – in regards to the time lag – between diverting flows out of the existing stream channel and backfilling this and diverting the flows into the new stream channel. A ballpark estimate will suffice.

The Site's topography and the proximity of the diverted waterbody to proposed Building B01 complicate, beyond standard practices, the construction methodology which has not yet been finalised. Using a site establishment date of March 2021 and keeping the diversion in place until October/November 2023 (at the latest, i.e. 20 to 21 months temporary diversion), would ensure that Ryman's construction team has adequate time to complete the underground stormwater tank, Building B01 basement and Level 1 structure adjacent to the stream. This is only a guestimate ball park indication, as full detail design has not yet been completed and it naturally is dependent on the actual start date of the works on site.

APPENDIX A

Beca Civil Response

APPENDIX B

Updated Stormwater Management Plan

C

APPENDIX C

Fire Emergency NZ Hydrant Locations

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 5 August 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

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1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 30 July 2020 in regard to outstanding stormwater matters, pursuant to section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. STORMWATER

The further information request seeks the following with respect to stormwater management for the Proposed Village::

> *11. Please provide confirmation of the capacity of the proposed re-aligned stream for 100yr ARI with supporting cross sections with water levels, freeboards, proposed structures and site boundaries shown.*
>
> *13. Please provide a flood risk assessment as required by E36.9(2). This should include but is not limited to:*
>
> - *The change in flow characteristics as a result works for the 1% AEP event to downstream properties (17 and 19 – 47 John Rymer Place) and accounting for pipe blockages as per the request above.*

Beca's response to the above requests for further information is provided in **Appendix A** to this memorandum. Note that the Stormwater Management Plan remains unchanged.

APPENDIX A

Beca Civil Response

MITCHELL DAYSH

Memorandum

To: Sandy Hsiao and Russell Butchers on behalf of Auckland Council

Date: 17 August 2020

Re: Further Information Response – 223 Kohimarama Road and 7 John Rymer Place, Kohimarama

1. INTRODUCTION

The purpose of this memorandum is to provide Ryman Healthcare Limited's ("**Ryman**") response to the further information requested by Auckland Council on 13 August 2020 regarding an updated flood hazard assessment, pursuant to section 92 of the Resource Management Act 1991 ("**RMA**"), and in relation to the resource consent applications for a comprehensive care retirement village ("**Proposed Village**") at 223 Kohimarama Road and 7 John Rymer Place, Kohimarama ("**Site**").

2. STORMWATER

The further information request seeks the following with respect to an updated flood hazard assessment for the Proposed Village::

> *13. Please provide an updated E36.9(2) flood risk assessment as required by including the following considerations:*
>
> - *Flood hazard management plan for the site*
> - *Discuss the Freeboard proposed and hazard risk around these , referencing the cross sections provided*
> - *Potential future modifications to the stream design and safety in design workshop at detailed design stage to potentially increase the freeboard particularly at Section 2 and 3 e.g. widening/deepening channel etc taking into account ecological aspects of the proposed re-aligned stream and the retaining wall design at X section2.*
> - *Use of the top of wall (29.6 m RL) to prevent flows from leaving the site, protecting downstream properties. Note peak 100yr ARI Water level in the OLFP is RL 29.62m at the two scruffy domes (Connor to confirm this arrangement).*
>
> *Updating the Overland Flow Path Levels.pdf plan to clarify what levels are being referenced e.g. 1% AEP top of water levels, ground levels etc.*

Summary of how 1% AEP and larger event flows are managed e.g. contingencies for blockage, flow chart in terms of where flows go - stream to scruffy dome/mitigation tank to .....

Beca's response to the above requests for further information is provided in **Appendix A** to this memorandum. It is understood that the Stormwater Management Plan will be updated once the Council is satisfied that the information provided has satisfied the request.

APPENDIX A

Beca Civil Response

6.6 Risks

E36.9 of the AUP requires a Hazard Risk Assessment when development takes place on land which may be subject to a number of natural hazards.

All references to appendices and figures should be read as a reference to appendices and figures in the Stormwater Management Plan for the Proposed Village.

6.6.1 E36.9.1 Hazard Risk Identification

a) Coastal erosion

Coastal erosion is not of significant relevance to this site. The downstream Pourewa environment is tidally influenced, however this is of a sufficient lateral and vertical separation from the site to be negligible.

b) Coastal storm inundation 1% AEP

Coastal storm inundation is not of significant relevance to this site. The downstream Pourewa environment is tidally influenced, however this is of a sufficient lateral and vertical separation from the site to be negligible.

c) Coastal storm inundation 1% AEP plus 1m sea level rise

Coastal storm inundation is not of significant relevance to this site. The downstream Pourewa environment is tidally influenced, however this is of a sufficient lateral and vertical separation from the site to be negligible.

d) 1% AEP flood plain

The overall wider catchment peak flows through and from the site, both in the pre and post-development conditions will be less than 2.0m^3/s for the 100-yr ARI / 1% AEP storm event. In this case, the upstream, on-site, and immediate downstream environments will not be subject to 'floodplain' hazards, as defined by the AUP (requiring surface flows in excess of 2.0m^3/s).

Nevertheless, the risks of flooding to property and buildings will need to be addressed throughout detailed design of both the stormwater reticulation network and watercourse upgrade works, in the preparation of the Proposed Village's Operation and Maintenance Manual, and in the ongoing maintenance of the stormwater network. We expect these will be subject to specific conditions of consent, as well as detailed building consent processes. It is proposed that levels of the proposed buildings adjacent to the stream are to be set a minimum of 150mm above the estimated peak water levels during the 100-yr ARI / 1% AEP storm event

e) Overland flow paths

The primary flood hazards in this context, particularly the immediate downstream environments, are associated with overland flow paths (as defined by the AUP – *requiring a low point in terrain…where surface runoff will flow, with an upstream contributing catchment exceeding 4,000m²*). Refer to section 4.2.5 of the Stormwater Management Plan for further details in this regard. From an overall perspective, the level of flood risk to downstream properties and buildings will be mitigated and improved relative to existing conditions, primarily as a result of increased inlet capacity and better maintenance of the network and overland flow paths on site, in tandem with the specifically-designed and comprehensive on-site attenuation systems.

Refer to Section 6.6.2 for a detailed overland flow hazard risk assessment, in accordance with E36.9.2.

Change in Flow Characteristics

It is considered that the risk of blockage to the proposed network arrangement will be substantially reduced relative to the existing network, for several reasons (including watercourse diversion design, weed management & planting proposed, O&M plan, multiple inlets to the network etc.).

When the full blockages of pipes smaller than 600mm are considered, in addition to pipes larger than 600mm being half blocked, it is anticipated there will be a reduction in the overland flow as a result of the development as it is calculated that 470l/s (half of 0.94 l/s, refer to calculation 1.22 in Appendix B) discharges to the downstream 600mm pipe. In addition to this the likelihood of blockages occurring is significantly reduced through the proposal. Therefore, it is considered that the residual risk of flooding of No. 17 John Rymer Place is reduced as a result of the development.

Effects of Overland Flow on the Wastewater Pumping Station

The Watercare Pump Station is likely impacted by the downstream overland flow path through John Rymer Place during larger / low frequency storm events in the current catchment conditions. As illustrated on Table 6.1 & 6.3 of the Stormwater Management Plan, the proposed on-site measures within the Ryman Healthcare site will reduce the overland flow discharges from the Site, thereby reducing the overland flow risks on the Pump Station relative to existing conditions.

The same outcomes assessed above in respect of downstream flood extents during pipe blockage conditions apply in respect of the pump station. Whereby although the extent of flooding would be increased in the post-development scenario when accounting for full blockage of 600mm diameter or smaller pipes, the likelihood of blockages occurring is significantly reduced through the proposal. Therefore, it is considered that the residual risk of impacting the Wastewater Pump Station is reduced relative to the existing scenario.

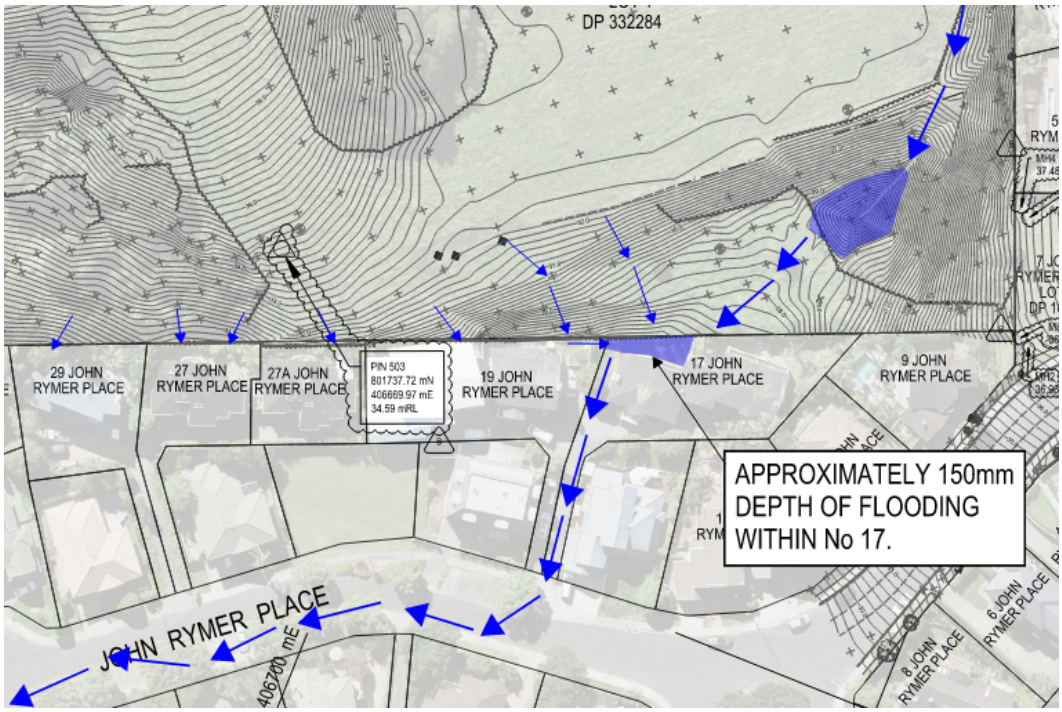
Change in Location of Overland Flow Path

The proposed overland flow path exit point from the site and into the No 17 John Rymer Place property will be altered and improved in the post-development condition as outlined in Section 6.1.7.

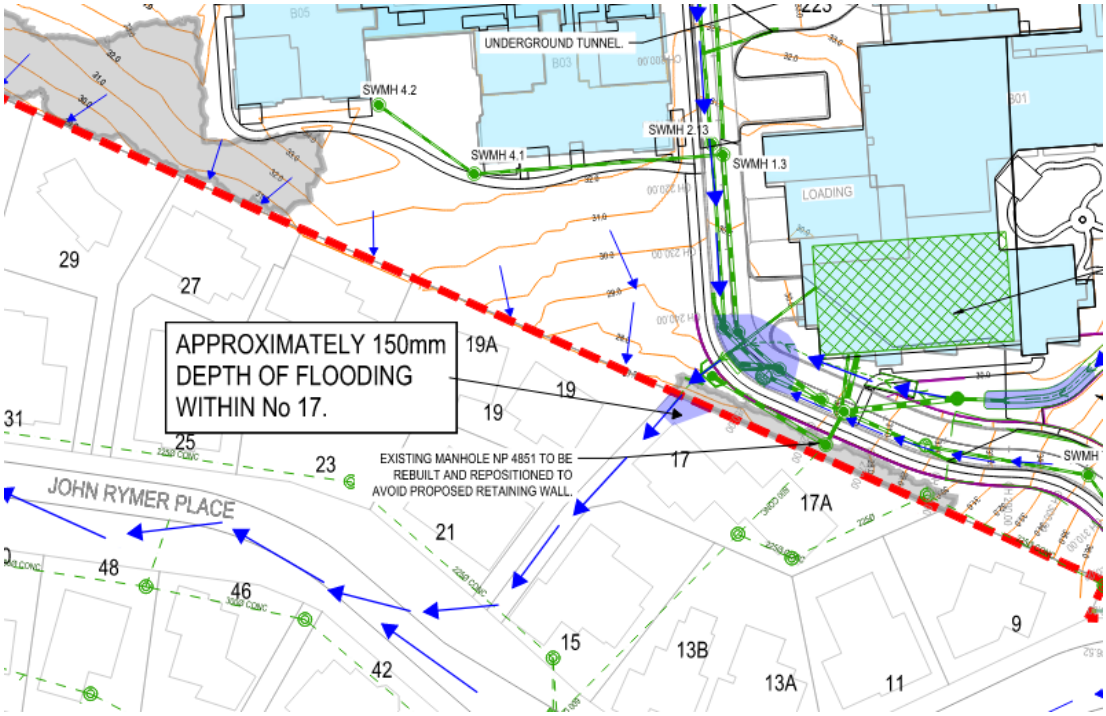
The existing overland flow into the rear boundary of No 17 would cross approximately midway on the property's northern elongated boundary. Once inside the property, it would be diverted by the dwelling approximately 15m westward and parallel to the northern boundary along a shallow gradient past the rear of the dwelling, before it reaches the western boundary with No 19 and changes direction southward along the moderately graded shared driveway and into the road corridor. This flow path presents an existing risk to the dwelling and occupants inside No 17.

The proposed development presents an opportunity to improve this existing overland flow arrangement. The proposed site design and network arrangement would alter the location of the overland flow path exit point from the site into No 17, formalising the flow path 'outlet' from the site to be directly in line with the shared driveway along the western boundary of No 17 with No 19. This will remove the overland flow path flowing past the rear entrance of the dwelling inside No 17 and provides a hydraulically improved alignment for overland flow through this area.

The design for the overland flow path will be further developed through detailed design and will form a controlled spill location and configuration which will be regularly maintained (refer Section 6.3) to reduce risks, particularly relative to the existing catchment and site conditions. It is considered that this will result in a better hydraulic performance of the overland flow path, lowering the flood water levels at No. 17 John Rymer Place, and reducing overall flood hazard risks within this property.



Schematic Sketch of Existing Overland Flow Paths



Schematic Sketch of Proposed Overland Flow Paths

f) Land instability hazards

Land stability issues have been addressed in the Geotechnical Assessment of Environmental Effects report prepared by Tonkin and Taylor (dated October 2019). The proposed drainage and construction works would be expected to reduce the potential for instability effecting the primary and secondary stormwater networks.

6.6.2 E36.9.2 Intermittent Stream & Overland Flow Hazard Risk Assessment

The details and levels of the stormwater network are to be developed through detailed design; however, they have been provided to illustrate the design intent for the purpose of this hazard risk assessment.

Intermittent Stream Details

As outlined in Section 6.1, the existing hollows and intermittent on-site streams sections are to be diverted. In addition to conveying on-site stormwater flows, this diverted channel is proposed to convey stormwater flow from Selwyn College, Kohimarama Road, and adjacent residential properties (refer Appendix A drawing 044-RCT_401_C0-SK085A for the stream catchment). Due to the elevation difference across the site, in order to limit the longitudinal gradient of the stream to provide ecological benefits it is proposed to install four waterfalls drops within the stream drops ranging between 2.3 and 3.1m to coordinate with the floor level changes of the adjacent building. The waterfalls are to be detailed to ensure that they do not create a barrier to the Banded Kōkopu and Shortfin Eels. Typical cross-sections and long sections have been developed for hydraulic analysis and site grading design but are to be further developed with the ecologist.

The on-site stream is proposed to discharge to the downstream public stormwater network mimicking the existing scenario. The inlet from the stream to the downstream piped network is proposed to include a 375mm diameter inlet (invert level of approximately 28.90m) and two scruffy dome inlets (with crest levels of approximately 29.20m). The 375mm diameter pipe is to combine with one of the scruffy dome inlets into a 750mm diameter pipe leading to the downstream flow control manhole ('SWMH 2.11'), where peak flows up to approximately 0.61m^3/s will discharge to the downstream public stormwater network and the remaining peak flows during a 1% AEP event would be diverted to the attenuation tank. The second scruffy dome inlet is to discharge directly into the attenuation tank. Should the 375mm inlet become blocked, all flows will enter the network via either of the scruffy dome inlets.

Detailed drawings of the stream are provided in Appendix D on the following drawings:

- 044-RCT_401_C0-021 (Overall Site Stormwater Plan)
- 044-RCT_401_C0-022 (Stormwater Pan of Stream Outlet and Attenuation System)
- 044-RCT_401_C3-061 (Open Channel Long Section)
- 044-RCT_401_C3-086, C3-087 & C3-088 (Open Channel Cross Sections)
- 044-RCT_401_C3-081 (Schematic of the Attenuation System and Stream Outlet)

Overland Flow Details from the Stream

In order to provide resilience in the on-site stormwater system an overland flow path has been designed from the stream to the overland flow path downstream of the site to mimic the existing scenario. The sketch of the overland flow path in Appendix E, illustrates that the path between the access road and the building is to be raised to allow overland flow to be conveyed from the stream below, when water levels within the stream exceed 29.50m. It is estimated that in the 1% AEP event, flows entering the scruffy domes will have a peak water level of 29.68mRL, leading to a water depth of up to 180mm within the overland flow path. This overland flow path follows a relatively flat route alongside the building to the low point in the access road.

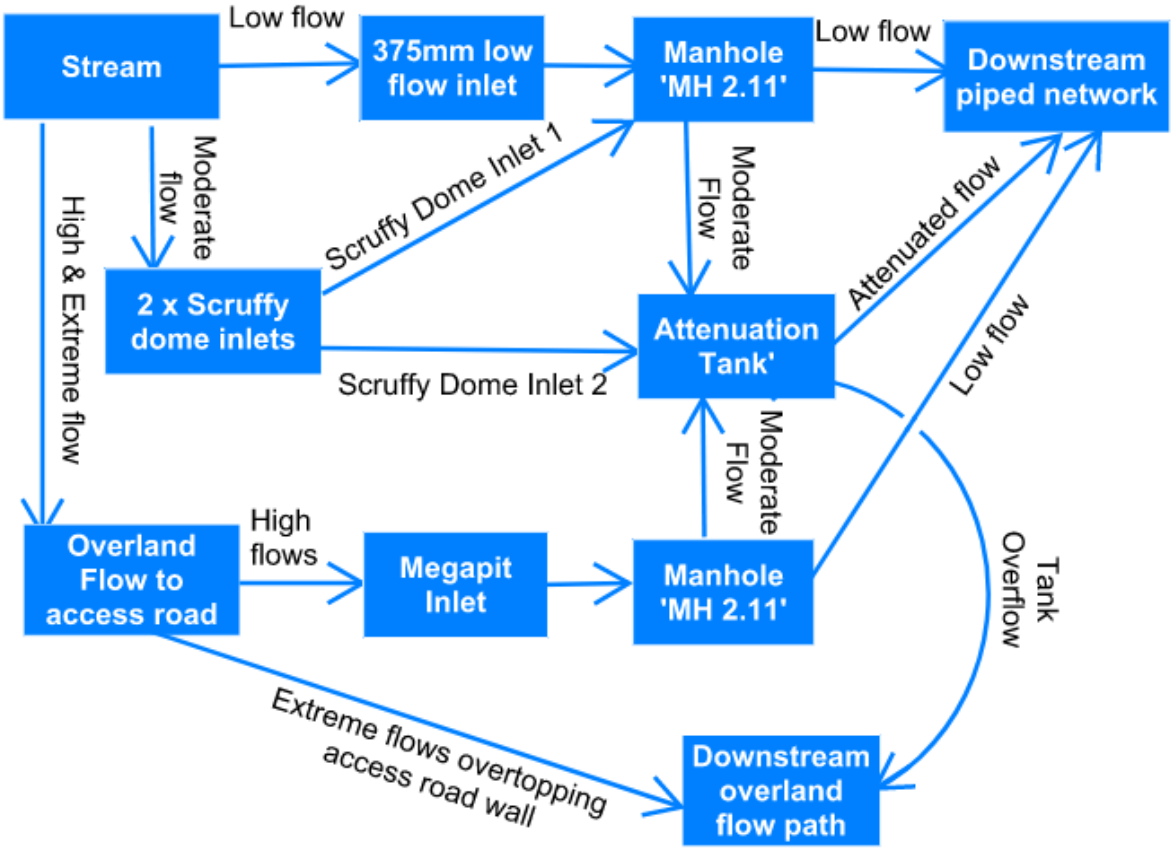
At this low point on the access road flood water would pond up to a depth of 0.5m as it would be contained on-site by a wall with an overtopping level of approximately 29.60m. The purpose of this wall is to contain overland flow within the site to protect downstream properties. A megapit with an inlet capacity of approximately 500L/s provides for excess overland flow contained by the wall to enter

the attenuation system. The wall has been designed to not overtop during the 1% AEP event, however a controlled release from the attenuation tank to the downstream overland flow path has been designed as outline in Section 6.1.

In the event that water backs up within the stream as a result of a blockage or exceedance of the capacity of the piped network system , an overland flow path has been designed from the stream to the access road, where flood water would be pond behind a wall adjacent to the access road until the storm recedes and the flood water enters the piped network. In extreme events (greater than 1% AEP events) flood water would overtop the access road wall and flow overland to the downstream property, similar to the current condition but with an improved location of entry (refer Figure 6.7). The proposed adjacent building finished floor level is 30.23mRL, 630mm higher than the overflow level of 29.60mRL set by the wall.

There is also a third scruffy dome inlet, for added resilience, to partially divert overland flows back to the piped network to further reduce the risk of flooding from overland flow to downstream properties.

Figure 6.8 provides a schematic of flow through the system.



Schematic of Proposed Stream Outflow & Overland Flow Path

Stream Hydraulics and Freeboard to the On-site Buildings

As part of an ecology assessment by Freshwater Solutions Ltd in December 2019, Shortfin Eel and Banded Kōkopu were identified within the existing watercourse on-site. Details of the stream are to be further developed during detailed design in consultation with the ecologist. It is intended to provide an environment suitable for both these species within the proposed stream, which will include providing stretches of the stream with differing flow characteristics.

The hydraulic performance of the stream conflicts with the ecological intention of the stream as it is ecologically favourable to provide relatively low flow velocities, planting within the channel, and relatively gentle planted bank slopes rather than retaining walls. It is proposed to provide an absolute minimum freeboard of 150mm from the estimated 1% AEP water levels to the finished floor levels. Estimated water levels and freeboards at four cross sections are illustrated in Appendix E, however they are subject to change with further design development of the stream. Cross sections 2 and 3 are the most constrained, providing 170mm and 200mm freeboard in the current concept design configuration. However, Section 2 has an estimated lateral offset of over 10m between the 1% AEP water level and the building. Similarly, Section 3 has an estimated lateral offset of over 5m between the 1% AEP water level and the building.

The peak flow rate at the downstream end of the stream is estimated to be approximately 1.50m^3/s and the anticipated flow depth throughout the stream is anticipated to be between approximately 500mm-600mm.

Due to the geometry of the channel and the adjacent area between the channel and the building it is estimated that the peak flow to result in flooding the building is much greater than the anticipated 1% AEP flow. It is estimated that for flows to reach the nearest floor level at Section 2, it would require over two times the predicted flow or a channel blockage of over 50%. For flows to reach the nearest floor level at Section 3, it would require over two times the predicted flow or a channel blockage of over 50%. This additional capacity within the channel will also provide flood resilience in the event there is a blockage within the stream. It is therefore considered that there is a low likelihood of the building flooding, however this to be to further reviewed with the design development of the stream and opportunities will be sought to further reduce risk, where feasible. Ryman Healthcare will also regularly maintain the channel to remove potential blockages as will be outlined within the proposed Operation and Maintenance Manual.

The proposed development is a retirement village, and classified as a “More vulnerable activity” in the Unitary Plan. More vulnerable community members, such as the elderly, should avoid exposure to flood water. Flood flows are considered extremely hazardous to these community members under all conditions. A site-specific Flood Hazard Management Plan is to be developed for the site to reduce the associated risk to users. Safety in design workshops will be undertaken with the stormwater engineers, representatives, and other relevant parties to assess and review the associated on-site risks to village occupants, staff, visitors, and property during detailed design. Should significant risks to people on-site be assessed to be remain, the geometry of the channel could be altered to reduce the estimated water level, however this is likely to result in adverse ecological impacts through increased extent (laterally and vertically) of retaining walls.

Flood Hazard Management Plan

A site-specific flood hazard management plan is to be developed for the site to inform staff of the flood hazards on-site and mitigation measure on-site to reduce the associated risk. The flood hazard management plan is to be included in H&S inductions for staff, and is to include but not be limited to the following:

- Description of the stream and attenuation details.
- Site plan illustrating anticipated area of stormwater ponding throughout the site and anticipated extent of the stream water levels during the 1% AEP event.
- Areas on-site with a significant flood risk and how pedestrian and vehicle will be limited to these areas at time of risk.
- Areas within the proposed building with safe refuge.
- Safe egress routes from the site.

- On-site alert systems of high rainfall event and procedures relating to flood events.
- List of relevant site contacts to report any flood incidents to.

E36.9.2 Hazard Risk Assessment

a) The type, frequency and scale of natural hazards

In the existing site conditions, due to the lack of any regular maintenance activities on the public networks on site, there is a significant risk of primary network blockage, resulting in potentially higher-than-normal overland flow frequencies through downstream properties – primarily No 17 John Rymer Place. The scale of this hazard varies with differing storm events. It is noted the existing inlets could not be located during site visits due to overgrown vegetation on site.

The proposed development presents an opportunity to improve on this existing condition, with improved network hydraulics, including increased inlet capacity and onsite attenuation, and regular maintenance activities to be clearly identified within the proposed Operation and Maintenance Manual to reduce risks associated with the scale and frequency of overland flows downstream of the site.

b) The type of activity being undertaken and its vulnerability to natural hazard events

The proposed on-site activities revolve around aged care facilities. These activities present a higher degree of vulnerability to overland flow path hazards. However, the primary overland flow path route will be controlled around the perimeter of the site, away from pedestrian alignments except for the low point of the access road where the overland flow path crosses the road and has the potential to pond up to a depth of 0.5m for a duration of less than one hour until the storm event recedes.

The maximum depth of ponding is considered to be less than 0.5m as the low point in the road is set at a level of approximately 29.2m and water has the potential to pond up to a level of 29.60 prior to overtopping the low wall at the road edge and flowing from the site overland. For the purpose of this assessment, conservatively allowing for 0.1m depth of flow over the wall the depth of ponding would be 0.5m. The maximum velocity is less than 0.75m/s. Therefore, the “depth x velocity” value (d.V) in accordance with the Queensland Urban Drainage Manual, 2013 (QUDM 2013) Table 12.1.1 would be less than 0.4m^2/s. This would be considered to present a low hazard to less vulnerable persons, but an extreme hazard to infants, small children and frail persons. However, it is unlikely that vulnerable persons would be outside during a 1 in 100 year storm event and during this time alternative vehicle and pedestrian access can be provided from Kohimarama Road. Informing all village residents of this potential hazard at this location would further reduce the associated risk to vulnerable people. This will be achieved through the implementation of the proposed Flood Hazard Management Plan.

Table 6.5 Flow hazard regimes for infants, children and adults (Extract from Queensland Urban Drainage Manual, 2013)

Table 12.1.1 – Flow hazard regimes for infants, children and adults

d.V (m^2/s)	Infants, small children (H.M < 25 m.kg) and frail persons	Children (H.M = 25 to 50 m.kg)	Adults (H.M > 50 m.kg)
0	Safe	Safe	Safe
0 to 0.4	Extreme hazard	Low hazard [1]	Low hazard [1]
0.4 to 0.6		Significant hazard [3]	
0.6 to 0.8		Extreme hazard	Moderate hazard [2]
0.8 to 1.2			Significant hazard [3]
> 1.2			Extreme hazard

Notes (Table 12.1.1):

[1] Stability uncompromised for persons within ideal laboratory conditions for a maximum flow depth of 0.5 m for children and 1.2 m for adults, and a maximum velocity of 3.0 m/s for very shallow flow.

[2] Flow conditions dangerous to some. Considered the working limit for trained safety workers and experienced well-equipped adults.

[3] Flow conditions dangerous to most. Considered to be the upper limit of stability observed during most investigations.

c) <u>The consequence of a natural hazard event in relation to the proposed activity</u>

As outlined in 6.6.2.b during the 1 in 100 year storm event, there is the potential for stormwater to pond at the low point in the road up to a depth of 0.5m which would cause an extreme hazard to frail people – however it is estimated that this ponding would manifest only for a duration of less than 1 hour. The consequences of this ponding and overland flow to the on-site activities will be low in this case due to the ability to control the associated hazards through the site design, the provision of alternative vehicle and pedestrian access from Kohimarama Road, and the implementation of a site-specific Flood Hazard Management Plan.

The consequences of overland flows on downstream properties will be improved relative to existing conditions due to the increased maintenance frequencies, controlled overland flow path discharge point, and improved network hydraulics.

d) <u>The potential effects on public safety and other property</u>

The potential effects of this ponding and overland flow to public safety within the site will be low, due to the ability to control the associated hazards through the site design and the alternative vehicle and pedestrian access from Kohimarama Road.

Risks to property within the site are managed through the provision of freeboard to finished floor levels and lateral offset of the buildings from the peak predicted 1% AEP water level. Safety in Design workshops will be undertaken through the Detailed Design of the stream corridor to ensure risk is designed out to the maximum extent possible. Residual risk will be mitigated through the provision of a site-specific Flood Hazard Management Plan and Operations and Maintenance Manual.

Potential effects on public safety and other property from overland flows downstream will be improved relative to existing conditions due to the increased maintenance frequencies, controlled overland flow path discharge point, and improved network hydraulics.

e) <u>Any exacerbation of an existing natural hazard or creation of a new hazard</u>

While no new natural hazard risks will be introduced through the development, the existing natural hazard risks associated with overland flow paths will be improved relative to existing conditions for the reasons outlined above.

f) Severe coastal erosion, coastal storm inundation or shoreline retreat

Coastal hazards are not relevant in this case.

g) The ability to use non-structural solutions to avoid, remedy or mitigate the hazard, rather than hard engineering solutions

The proposed stream channel alignment presents a green infrastructure solution for controlling the alignment of overland flows through the site. 'Hard' engineering solutions are however necessary for controlling the management of overland flows from the site to reduce downstream risks due to the existing, 'brownfield' constraints of the site.

h) The design and construction of buildings and structures to mitigate the effects of natural hazards

All structures within the site have and will be designed in accordance with relevant guidelines, including the Building Code, to withstand any residual on-site risks from flooding and overland flow path hazards. Safety in design workshops will be undertaken with the stormwater engineers, representatives, and other relevant parties to assess and review the associated on-site risks to buildings and structures during detailed design.

i) The effect of structures used to mitigate hazards on landscape values and public access

The overall site and landscape design has been integrated with the proposed engineering solutions to reduce visual and landscape impacts. Detailed design of the stream channel will be completed in consultation with the ecologist to balance ecological and stormwater conveyance outcomes.

j) Site layout and management to avoid or mitigate the adverse effects of natural hazards, including access and exit during a natural hazard event.

The site layout and management has been designed to control and avoid on-site risks from flood and overland flow path hazards. During a significant overland flow event alternative vehicle and pedestrian access can be provided from Kohimarama Road to avoid the low point on the access road where there is the potential for ponding of stormwater up to a depth of 0.5m. Safety in design workshops will be undertaken with the stormwater engineers, representatives, and other relevant parties to assess and review the associated on-site risks to village occupants, staff, and visitors during detailed design to ensure proposed pedestrian movement avoids risk from flood hazard. Outcomes will be incorporated into the proposed Flood Hazard Management Plan.

k) The duration of consent and how this may limit the exposure for more or less vulnerable activities to the effects of natural hazards including the effects of climate change

The proposed activity will be 'permanent' for all intents and purposes, but this does not alter the degree of vulnerability, even when considering potential climate change impacts on overland flow path hazards. Future rainfall conditions have been assessed, and the proposed control measures and associated outcomes remain valid.

l) Any measure and / or plans proposed to mitigate the natural hazard or the effects of the natural hazards

A range of measures and plans are proposed on site to control and avoid overland flow path hazards within the site, and reduce hazards downstream relative to existing conditions. Primary interventions include increased maintenance frequencies, a controlled overland flow path discharge point, and improved network hydraulics.