

FTAA-2504-1055 - Rangitoo-puni Application

Request for Information No. 2 - Maven Response

24 October 2025

Expert Consenting Panel

C/- Environment Protection Authority

1.1 Overview and General Approach

The following memo provides a formal response to the request for Information No. 2 (RFI) from the Expert Consenting Panel in relation to the Rangitoo-puni fast-track application (8 October 2025). Our response to the relevant matters raised are provided below.

Please note this response should be read in conjunction with the formal response from Campbell Brown, and we also rely upon (in part) the legal opinion from Jeremy Brabant in respect to an outstanding point of contention between the Applicant and Healthy Waters.

As per the panel's direction, we have been working collaboratively with Healthy Waters, Auckland Council and Auckland Transport representatives throughout this RFI window. A summary of consultation undertaken, our responses and any outstanding points of contention/disagreement or highlighted in this response, alongside a summary of the ongoing actions.

1.2 Shared Access Path (RFI Item 2)

RFI Item 2 talks to the shared access path associated with the Integrated Māori Development (IMD) or Retirement Village as per extract from the RFI below in *italics*, with the Maven response listed below.

2. The Applicant is also requested to provide a response to the following questions posed in Council's response:

a) What measures are proposed at the site boundary to prevent golf carts from exiting the site?

Please refer to the amended plan (RV147016 C-300-8 Rev B) which shows 100mm x 100mm timber bollards (with concrete footing) being constructed along the boundary with the Esplanade. These bollards will be placed at 1m centres to prohibit and vehicles entering the Esplanade Reserve.

b) How will golf carts manoeuvre (details not shown in the current plans)?

Please refer to the amended plan (RV147016 C-300-8 Rev B) which indicates the turning bay being provided at the bottom of the track.

c) What arrangements are proposed for golf cart storage / parking when residents continue on foot to Riverhead?

We defer to the Campbell Brown response. No parking is proposed, as the golf carts will be operated by Village staff.

1.3 Flood Modelling and Consultation with Healthy Waters

RFI Item 3 relates to the flood model and sought the Applicant to work collaboratively with Healthy Waters. An extract of the RFI is listed below in italics:

3. In its response to comments the Applicant advised that it would provide the flood model and associated additional testing and assessments for the project. The Expert Panel seeks a copy of that information, to be provided to the EPA in a form that is able to be examined by Auckland Council's flooding/stormwater engineers to confirm modelling assumptions, proposed and existing stormwater infrastructure size, verify the model performance and outputs, and confirm that the model is 'fit for purpose' to support the associated flood hazard and risk assessment. The parties are encouraged to co-operate in relation to the provision of and review of this information.

1.4 Summary of Consultation Undertaken

Please refer to a summary of the consultation (and dates) undertaken with Auckland Council, Healthy Waters and Auckland Transport Representatives is listed in table 1, below

Table 1: Summary of Consultation Undertaken

Date	Summary
03.10.2025	Shared Model with Healthy Waters as per our formal response to the Panel.
09.10.2025	Maven made a meeting Request via email following on from receiving Minute 3 and RFI 2 from the Panel. Further back and forth emails occurred, before a meeting date was confirmed for Wednesday 15/10.
14.10.2025	Meeting Agenda circulated by Maven
15.10.2025	Preliminary comments received from model review from Healthy Waters before our meeting, received via email 15/10.
15.10.2025	Meeting was held between Maven, Healthy Waters and Auckland Council. This meeting primarily discussed the flood model, including the review that had been undertaken by
15.10.2025	Meeting was held between Auckland Council and Auckland Transport representatives, this meeting primarily discussed flooding within Forestry Road, the culverts, and other associated matters
15.10.2025	A revised Excel spreadsheet (version 1) was circulated from Council / Healthy Waters, which included some additional matters / items that needed addressing from the meeting held. An email from Joe Wilson also included five other matters which have been considered and addressed in this response.
15.10.2025	Maven shares Work in Progress (WIP) plans showing flooding in Forestry Road extents and cross-sections to Auckland Transport
17.10.2025	Update email to Auckland Council and Healthy Waters from Maven. This email outlined that we had additional modelled scenarios running, and that we would be able to provide our interim response on Monday (20/10).

20.10.2025	Interim Response from Maven to Auckland Council and Healthy Waters. The OneDrive link was updated to include two new scenarios (N -value changes to CSL platforms, and culvert update to include all culverts and minor tweaks to align culverts from plans to the model). In the email we also noted that further scenarios are underway, and that these will be shared via the OneDrive link when available.
21.10.2025	Email from Maven and updated OneDrive for scenarios including a model with CSL being developed, without Forestry Road being upgraded.
22.10.2025	Email from Maven and updated OneDrive for scenarios including: The new folders include the western model and additional sensitivity checks <ul style="list-style-type: none"> • Western model (Stages 1-5) • Eastern model with downstream structures added • Eastern model with downstream structures added and Dynamic tailwater boundary condition • Eastern model with culvert invert match plans
22.10.2025	Meeting Held with Healthy Waters and Auckland Council. A review of the further models provided had not been undertaken by Council, but discussion was had relative to the additional work Maven had done. There remained two primary points of contention: <ol style="list-style-type: none"> 1) The assumption that there was excessive ponding in the Retirement Village, and that this was underrepresenting results; and 2) CN Values of the pre-development state of the site. HWs continue to argue this should be CN 70 (which assumes mature vegetation), whereas the Applicant has said the actual CN should be CN 77 (current, deforested state) but we have modelled the pre-development on CN 74, which is conservative and consistent with PC100 and all other Council modelling done.
22.10.2025	Maven suggested that we could have a Teams meeting with the reviewer from Healthy Waters (Larry Shui). A meeting was held to assist in the review process. A further email was then circulated to Larry summarising the location of folders and different modelled scenarios undertaken.
22.10.2025	Email received from Joe Wilson outlining the AT feedback discussed at the meeting. This will be addressed within this response.

Email correspondence can be provided to the Panel if this would assist.

1.5 Auckland Council email RFI dated 15/10/2025

The below is an extract from the email received from Joe Wilson dated 15 October, which was a summary of outcome from the first meeting held with Auckland Council and Healthy Waters. The items are set out below in *italics*, along with the formal response from Maven.

1. *HW have updated the spreadsheet (which is accessible in this link [Riverhead Model Review report \(1\).xlsx](#) in respect to the SW pond/dam within 49 Forestry Road to ensure that the effect on and the resilience of this feature as part of your stormwater management proposal is assessed, as well as the effect on adjacent persons which the panel will need to consider and we consider you need to assess and speak to. I have had a look on our system and cannot find a consent for the feature itself but please see attached recent decisions for WW treatment system and plans which is publicly available information to assist you. Also see below snip of a 1969 WAT permit which suggests the feature was in place before then.*

Although Maven does not have the consenting history of the downstream pond/feature, we have made assessment on the potential effects. A review of the post-development model indicates that the flows are reduced from the assumed pre-development state (CN 74) which will ensure long-term risk to the downstream structure is reduced. Given that the effects on this structure will be increased when the forest is felled (this catchment will be logged between December 2025 – March 2026), the replanting and protection of the bulk of the catchment will produce long-term benefits.

2. *Outline sequencing of events, we discussed is Maven will respond to the comments provided in the excel table and revert by end of the week, Council and HW to review this information and then placeholder meeting in for next Wednesday.*

Please refer to the appended Excel spreadsheet which has been updated to include all the additional scenarios modelled.

3. *Sequencing of stormwater management – Toby to review staging of the development and dependency of SW management measures and infrastructure. Key questions:*
 - *attenuation measure in western catchment of CSL delivered within stage 1, and which other stages dependent on this.*

The attenuation culvert 1-1 will be constructed in the first phase of civil works (which will see Stages 1-3 constructed together). This will ensure that the culvert is operational before any development occurs within the western catchment (Stages 1-5).

- *Need for, and which SW features for the management of SW in the stages of subdivision in the CSL eastern catchment.*

Maven has prepared a model which includes post-development flows from the CSL, without Forestry Road being upgraded. Feedback from Healthy Waters has not yet been received, and this may influence staging conditions (Condition 7 and/or stormwater discharge consent conditions).

- *And then same question for the RV.*

The attenuation culvert (Culvert 7) and the upgrades to Forestry Road will be undertaken as part of Stage 15 (the Retirement Village). This will ensure suitable vehicle access and mitigation is in place before the RV is occupied.

4. *Toby to provide further information in response to the concerns raised regarding potential dam classification and function of culvert features along Forestry Road. As noted in the meeting the advice provided is that Council would not take on such assets if providing this function so agreed to Toby would seek to provide more information on position that this would not be the case.*

Please refer to the Maven drawings (147016 C482-1 and 147016 C482-6) which have been prepared to indicate the maximum possible area of impounded water upstream of Forestry Road. This was done as per the assessment under the Dam regulations Act, i.e. maximum volume when taken to the crest point (which is Forestry Road proposed levels). We have then indicated on the plan the maximum ponding volume in the catchments. In all instances, the total volume is significantly less than 20,000m³, ensuring they are not dams. Finally, we note that the volume of water in these gullies in the modelled state (which assumes the culverts are working or 50% blocked) will be reduced from the volumes shown on these drawings.

5. *Toby to send through flood level (pre and post) to AT for comment in response to item 4 of the panels RFI (has been sent).*

Confirming that this was actioned as per Table 1. Please refer to Section 1.9 (below) for further comment and assessment.

1.5.1 Auckland Council email RFI dated 22/10/2025

Following on from our second meeting with Auckland Council and Healthy Waters, a further email RFI was received from Joe Wilson. An extract from the email dated 22 October is set out below in *italics*, along with the formal response from Maven.

- *The comments relating to flooding are contingent on Healthy Waters reviewing and accepting the applicants model. If changes are required based on the review undertaken by Healthy Waters, additional comments from Auckland Transport may be required.*

Noted.

- *On the updated 1% AEP Post Development Flood Plan in document '147016-RV-C4750 POST DEV (A1)' the location of sag points where flows will exit the road reserve are not shown. These should be shown along with the depths. Where depths exceed 300mm, i.e., where small vehicles can begin to float, an energy grade line assessment should also be provided to demonstrate there is no risk of cars floating and being swept down into more hazardous flows.*

Sag points have been added to plan 147016-RV-C475-2B FLOOD 100YR POST and confirmation that depths within the proposed road corridor shall not exceed 300mm.

- *A secondary flow path assessment with appropriate blockages must also be provided and it must demonstrated that there will not be hazardous flow conditions. Previous model result maps provided, e.g. the map titled '1% AEP Storm with (3.8 degree Climate Change) Depths Post development (50% Blockage)', show that outside 85 Forestry Road there are water depths between 200mm - 500mm across the proposed carriageway. It is unclear what the peak depth is, but if the flows are 300mm or more across the entire road reserve there is a risk of vehicles floating and being swept into the adjacent stream.*

Additional cross section has been added to the plan C475-2A_2B-2 in front of 85 Forestry Road at chainage 157, set and confirmation that depths within the proposed road corridor shall not exceed 300mm for the blockage scenario.

- *Where culverts are intentionally undersized to attenuate flows, these may be considered classifiable dams under the Building (Dam Safety) Regulations 2022. Auckland Transport cannot vest dams as the requirements for monitoring and maintenance are outside the abilities of Auckland Transport, and Auckland Council have indicated that they will only vest dams with express written agreement, which may not be forthcoming. For all Major Culverts (inlet area >3.4m²) that cannot be sized to meet the NZTA Bridge Manual capacity requirements, please provide the maximum height from toe to top of embankment and the volume of stored water behind the embankment.*

As per the above assessment, none of the culverts are classified as dams, with none of the catchments able to impound 20,000m³ of water to their respective crest points in Forestry Road. The culverts primary function under Forestry Road are to convey water, and thus, are different in design and function to Culverts 1-1 and Culvert 7.

Maven has undertaken a high-level review of the NZTA Bridge Manual and are of the view that the culverts would be Class-2 (Importance level 2), as the road is a low-volume road. It is our understanding that the Ultimate Limit State (ULS) design storm is 1 in 50-year, and for the Service Limit State (SLS) is a 10-year rainfall event. On this basis, we are of the view that the culverts will comply with both the ULS and SLS provisions, seeing that we have modelled Forestry Road for 100-yr events with climate change.

- *For culverts that are not considered classifiable dams but also do not meet the capacity requirements, the applicant must:*
 - *Demonstrate the culvert is designed with anti-seep drainage by a Chartered Geotechnical and provide copies of Producer Statements for the design and construction monitoring.*
 - *Demonstrate the road embankment within the influence line of the detained floodwater should be reinforced and specifically designed by a Chartered Geotechnical and provide copies of the Producer Statements for the design and construction monitoring.*

As per above, Maven has reviewed the NZTA Bridge Manual and is of the opinion that compliance should be possible. Further investigation and design will need to occur as part of the EPA stage, and we are happy if the above conditions are inserted into the EPA condition (Condition 45). If required, the above factors can be included in the EPA and building consent (detailed design) packages

We note that any changes to the culverts will also require the provision of supporting flood model for assessment as part of the EPA, given the nature of the receiving catchment. If full compliance with an AT TDM or NZTA bridge standard cannot be achieved (due to ensuring no downstream effect), a Departure of Standard (DfS) would be applied, and we are of the view that such a request would be fair and reasonable.

1.6 Summary of Additional Flood Modelling and Outcomes

As per the summary table (Table 1) Maven has undertaken various modelling scenarios that have been shared with Auckland Council and Healthy Waters. For the most part these are sensitivity tests / checks done. Table 2 sets out the additional modelled scenarios alongside a summary of outcomes.

Table 2: Summary of Additional Modelled Scenarios and Summary of Findings

Model Scenario	Summary
Dynamic Downstream flood level (pre and post 100-yr with CC)	There were no localised effects created by this dynamic downstream condition. This backs up Maven's position that any downstream effects will be reduced if we can reduce peak flows.
Inclusion of bridge structures downstream in Riverhead Village (pre and post 100-yr with CC)	There were no localised effects created from the inclusion of the structures. This backs up Maven's position that any downstream effects will be reduced as long as we can reduce peak flows.
Change of N value for all Building Platforms in the CSL (0.1 to 0.035)	Sensitivity runs were completed for the 100yrCC including lowering manning of platforms of CLS from 0.1 to 0.03. Update increased post development flows by approximately 0.1%, however flows were still found to be less than predevelopment. Maven's position is that change of the N value shall not have impact on the assessment.
Change of N value for total RV extent from 0.1 to 0.035	Sensitivity runs were completed for the 100yrCC including lowering manning of platforms of RV from 0.1 to 0.03. Update increased post development flows by approximately 0.1%, however flows were still found to be less than predevelopment. Maven's position is that change of the N value shall not have impact on the assessment.
Change of N value for total RV extent from 0.1 to 0.035 and pre-soak to remove concerns around excessive ponding	Sensitivity runs were completed for the 100yrCC including terrain update to remove discussed ponding. Update increased post development flows by approximately 2%, however flows were still found to be less than predevelopment. Maven's position is removal of noted ponding on platforms shall not have impact on the findings of the assessment especially given that we consider the predevelopment scenario to be in conservative nature of the (CN=74 for harvested pine forest).
CSL post-development with no Forestry Road upgrade	A 100yr storm scenario run with completion of the CSL only under current climate change with proposed bush area CN = 70. Results showed an increase in flow of 0.5%, or increase in water levels downstream of 1mm to 2mm. Maven's position is that this effect is negligible, especially given the conservative nature of the predevelopment (CN=74 for harvested pine forest).

1.7 Outstanding Matters

Whilst considerable progress has been made on the model and outcomes, there remains two aspects to which agreement has not been reached within the last meeting held on 22 October. These are listed below.

1.7.1 CN Values

Healthy Waters' position is that due to historic tree cover, the pre-development CN value of CN 70 should be adopted. Maven continues to disagree with this position, given that this is not correct. The site is largely logged and/or will be shortly, with Stages 6-8 forest cover is being harvested December 2025 - March 2026). We also defer to the legal position from Jeremy Brabant relative to this matter.

Maven is of the view that the actual CN value of recently logged forests is between 77 - 80+. The removal of tree cover alongside the compaction of skid areas, roading etc via logging machinery will significantly increase runoff from that of a forested state. We disagree that there is no difference between forested and felled land and remain of the opinion that such effects of rotation forestry needs to be considered in quantifying downstream land-use risk.

If we were to assume a CN value of 70 for the pre-development scenario this would essentially mean that there is no benefit gained from replanting the site and protecting this bush via covenants in perpetuity. Given the clear benefits this will create to the downstream environment from the retention of rotational pine forestry, Maven remains of the view that benefit should be applied for the native replanting, and that the long-term benefits that this will create should be supported.

Although Maven is of the view that the pre-development state is CN 77, we have undertaken the pre-development flood modelling with an assumed CN of 74, which is consistent with both PC100 (weighted CN of 74.1 for our catchment) and the Auckland Council flood modelling. This therefore creates consistency between all modelled scenarios and reflects the mid-point of rotation forestry which sees CN values range between 70-80 depending on forest cover and logging operations.

We do, however, note that this is conservative, and the actual runoff from the site in the current state exceeds the assumed pre-development. Although we are not relying upon this for our design, we are of the view that this needs fair consideration from the Panel when considering the future effects of the Application.

We are of the view that by ensuring conservatism in all pre- and post-development assumptions, any perceived concerns relative to the interim effects are mitigated suitably.

1.7.2 N value Assumptions

We have since modelled three additional scenarios to remove this concern. This included:

- 1) N value change for total platform area in CSL from 0.1 to 0.035.
- 2) N value change for the total RV area from 0.1 to 0.035
- 3) N value change for the total RV area from 0.1 to 0.035 and pre-soak design event.

In all scenarios with the additional tests completed, the flows remained less than the pre-development state. As such, there is no benefit in modelling smaller events, given the outcome of the sensitivity checks. We note that formal feedback has not yet been received from Healthy Waters on these matters.

Sensitivity runs were completed for the 100yrCC including lowering manning of platforms of CLS and RV from 0.1 to 0.03. Update increased post development flows by approximately 0.1%, however flows were still found to be less than predevelopment.

Sensitivity runs were completed for the 100yrCC including terrain update to remove discussed ponding. Update increased post development flows by approximately 2%, however flows were still found to be less than predevelopment.

Maven's position is decreasing in platform manning and removal of ponding areas on platforms shall not have impact on the conclusions of the assessment especially given that we consider the predevelopment scenario assumptions.

1.8 Staging and Flood Mitigation Discussion

1.8.1 Stages 1-5 (100yr)

Attenuation Culvert 1-1 will be constructed as part of Stage 1, alongside the initial stage of civil works which captures Stages 1-3. This ensures that mitigation is in place for the western catchment before any impervious surfaces are introduced. Given that the catchment (aside from 11 lots) can be controlled by this structure, the solution includes interim measures whilst the vegetation establishes.

1.8.2 Stages 1-5 (10-year)

In total there is 11 residential lots which discharge stormwater downstream of Culvert 1-1. Whilst the culvert can mitigate the 100-yr rainfall events, there is a minor increase in the 10-yr flows. Given this catchment is less sensitive and the fact that the increase is only 251l/s. We note that the 2-yr and 100-yr events are mitigated by Culvert 1-1.

Maven has prepared a HEC HMS model which provides for attenuation within the 11 lots which are Stages 1 (Lots 1-4) and Stage 2 (Lots 12-16) and Stage 5 (Lots 17 and 18) that discharge outside of Culvert 1-1. This provides indicative tank sizing for an assumed worst-case (500m² roof and 500m² driveway). Subject to 10-yr mitigation pre-development flows can be achieved.

If the Panel feels that attenuation is needed, then the Table under the Discharge consent will need to be amended, stating 10-yr on-lot mitigation is needed for Stages 1 (Lots 1-4) and Stage 2 (Lots 12-16) and Stage 5 (Lots 17 and 18), and the consent notice amended for these lots to ensure consistency and confirmation of final mitigation at building consent stage in general accordance with the Maven HEC HMS Report.

1.8.3 Stages 6-14

Maven has prepared a model which includes post-development flows from the CSL, without Forestry Road being upgraded. Feedback from Healthy Waters has not yet been received on this model. However, Maven is of the view that the minor increases (1-2mm localised) does not create any effects that are more than minor.

Further consultation is ongoing with Healthy Waters, and following on from next week's meeting, additional information maybe shared to the Panel. This could influence the staging conditions (Condition 7) and could also influence conditions contained within the Stormwater Discharge consent.

1.8.4 Retirement Village (Stage 15)

The attenuation culvert (Culvert 7) and the upgrades to Forestry Road will be undertaken as part of Stage 15 (the Retirement Village). This will ensure suitable vehicle access and mitigation is in place before the RV is occupied.

1.9 RFI Item 4 – Flood Maps

Item 4 on the RFI sought additional flood maps for Forestry Road. An extract from the RFI is outlined below in *italics*

1. *The Panel also seeks that additional Flood Maps be provided that show/include:*
 - a) *Existing and proposed public road reserve and location of the formed road within the proposed road corridor.*
 - b) *Flood extents, with labels to clearly show the maximum values; and*
 - c) *Depth maps, depth comparison maps, and depth x velocity maps for all scenarios assessed.*

Maven has prepared flood extent plans (147016 C482-1 – C482-6), including flood depths, cross-sections and a depth x velocity assessment (within the road extent only) for a total of eight modelled scenarios. Please refer to the appended drawings for further detail. Table 3 lists the scenarios included within the appended plans:

Table 3 – Forestry Road Flooding Plans and Cross Section Scenarios

PLANS	Storm Event	Development	Design Climate Changes	Comment
1A	1%AEP	PRE	3.8 degree (32.7%)	Site Predevelopmentbt & outside site MPD
1B	1%AEP	POST	3.8 degree (32.7%)	Site Predevelopmentbt & outside site MPD
2A	1%AEP	PRE	3.8 degree (32.7%)	Site Predevelopmentbt & outside site MPD (50% Culvert Blockage)
2B	1%AEP	POST	3.8 degree (32.7%)	Site Predevelopmentbt & outside site MPD (50% Culvert Blockage)
3A	2%AEP	PRE	No climate changes	Site Predevelopmentbt & outside site MPD
3B	2%AEP	POST	No climate changes	Site Predevelopmentbt & outside site MPD
4A	2%AEP	PRE	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
4B	2%AEP	POST	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
5A	5%AEP	PRE	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
5B	5%AEP	POST	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
6A	5%AEP	PRE	No climate changes	Site Predevelopmentbt & outside site MPD
6B	5%AEP	POST	No climate changes	Site Predevelopmentbt & outside site MPD
7A	10%AEP	PRE	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
7B	10%AEP	POST	2.1 degrees (17.0%)	Site Predevelopmentbt & outside site MPD
8A	10%AEP	PRE	No climate changes	Site Predevelopmentbt & outside site MPD
8B	10%AEP	POST	No climate changes	Site Predevelopmentbt & outside site MPD

2. SUMMARY AND NEXT STEPS

The above listed out the formal Maven Response to RFI 2.

As directed by the Panel, we continue to work collaboratively with Healthy Waters, and have another meeting scheduled for Wednesday whereby further discussions around the additional modelled scenarios will be undertaken, alongside some possible discussion relative to staging of Forestry Road.

In the event agreements are reached, or there are any outcomes which may influence conditions that have been circulated, a formal update will be provided to the Panel's benefit.

3. APPENDICES

- UPDATED DRAWINGS
- HEC HMS REPORT FOR WESTERN CATCHMENT
- COPY OF EXCEL SPREADSHEET SHARED BETWEEN MAVEN AND HEALTHY WATERS