

BEFORE AN EXPERT CONSENTING PANEL

IN THE MATTER of the Fast-track Approvals Act 2024 (**FTAA**)

AND

IN THE MATTER of an application for approvals by Winton Land Limited to subdivide and develop 244.5 hectares at Old Wairoa Road, Cosgrave Road, and Airfield Road between Takanini and Papakura, Auckland into approximately 3,854 homes, consisting of individual homes and 3 retirement villages containing independent living units and associated features such as a 7.5 hectare town centre, a school, 4 local hubs, open spaces, green links, recreation parks and reserves and ecological areas (**Application**)

**‘WILL SAY’ STATEMENT FOR EXPERT WITNESS CONFERENCING BY
ANDREW CHIN, DR ROJA TAFAROJI, AND J GRANT MURRAY (AUCKLAND
COUNCIL) AND BY GRIFFIN BENTON-LYNNE (AUCKLAND TRANSPORT)**

(a) Stormwater / Flooding

(b) Groundwater / Geotechnical

Dated: 7 November 2025

1. INTRODUCTION

- 1.1 This joint 'will say' statement is provided by Andrew Bing Chin, Dr Roja Tafaraji, and J Grant Murray on behalf of Auckland Council, and by Griffin Benton-Lynne on behalf of Auckland Transport, in relation to expert witness conferencing for the Sunfield Fast-track Application under the FTAA.
- 1.2 This statement relates to the following topics, which are to be addressed at a single expert witness conferencing session:
 - (a) stormwater and flooding matters; and
 - (b) groundwater and geotechnical matters.
- 1.3 In the interests of efficiency, a single joint statement has been prepared on these topics for the purposes of conferencing.
- 1.4 Andrew Chin has previously prepared a report for the Council on stormwater and flooding matters entitled "*Healthy Waters and Flood Resilience Memo*", dated 4 August 2025 (**the HW Report**). Andrew addresses stormwater and flooding matters in **Section 5** of this statement.
- 1.5 Griffin Benton-Lynne has previously prepared a report for Auckland Transport on stormwater and flooding matters entitled "*Sunfield Stormwater Review Memo*" dated 1 August 2025, which is located at Annexure 4 to Auckland Transport's comments on the Application (**the AT Report**). Griffin also addresses stormwater and flooding matters in **Section 5** of this statement.
- 1.6 Dr Roja Tafaraji is a Senior Parks Planner at the Council and was previously involved in providing Parks review of Applicant Section 55 Response and feedback to the Expert Panel under Minute 9. Roja has joined this statement solely to provide brief input, from a parks planning perspective, on the basin 'dual use' matters addressed at **Section 5, item C** below.
- 1.7 Grant Murray is a registered chartered professional engineer (geotechnical). Grant has previously contributed to a report in relation to the Application. He

addresses groundwater and geotechnical matters in **Section 6** of this statement.

2. QUALIFICATIONS AND EXPERIENCE

Andrew Chin

- 2.1 Andrew Chin is Head of Healthy Waters Strategic Initiatives at the Council, and a chartered engineer with 25 years experience in the fields of water engineering and planning. Andrew's qualifications and experience are set out at paragraph 1.3 of the HW Report, and are not repeated here.

Griffin Benton-Lynne

- 2.2 Griffin Benton-Lynne is a consultant water infrastructure engineer at Awa Environmental Limited. Griffin's qualifications and experience are set out in a letter to the Panel dated 23 September 2025, and are not repeated here.

Dr Roja Tafaraji

- 2.3 Dr Roja Tafaraji is a Senior Parks Planner at the Council with a BA in Architecture, a Masters in Urban Design, and a PhD in Urban Planning with experience in providing assessments for parks and open space provision as part of the resource consent process and expert evidence to the resource consents hearings panel. Roja's qualifications and experience are detailed in **Attachment 1**.

Grant Murray

- 2.4 Grant Murray is an independent consultant and a registered / chartered professional engineer (geotechnical) with over thirty-five years international experience in the design and construction of major infrastructure, power and industrial / commercial projects, with particular expertise in dam safety. Grant's qualifications and experience are detailed in **Attachment 1**.

3. CODE OF CONDUCT

- 3.1 We confirm that we have read the Environment Court Practice Note 2023 – Code of Conduct for Expert Witnesses (**Code**) and have complied with the Code in the preparation of this statement. We agree to follow the Code of Conduct when participating in expert conferencing and any subsequent

processes directed by the Expert Panel. We confirm that the opinions we express are within our areas of expertise and are our own, except where we state that we are relying on the work or evidence of others, which we have specified.

4. CONFIRMATION OF PREVIOUS REPORT / SCOPE OF STATEMENT

4.1 Andrew Chin and Griffin Benton-Lynne confirm that they are the authors of the HW Report and AT Report respectively, and that they stand by the analysis, conclusions and recommendations contained in those reports (which are not repeated), subject to:

- (a) The updated opinions expressed in **Section 5** of this statement, which are provided in response to the revised Application and updated information received from the Applicant in response to comments; and
- (b) Any refinements or clarifications that may arise through the expert conferencing process.

4.2 As noted, Dr Roja Tafaraji was previously involved in providing Parks review of Applicant Section 55 Response and feedback to the Expert Panel under Minute 9. Roja provides her key opinions on the 'dual use' issues raised, from a Parks Planning perspective, at **Section 5, item C** below.

4.3 Grant Murray provides his key opinions on the groundwater/geotechnical-related issues raised in the Council's and applicant's lists of issues and at paragraph 18(d) of Minute 13 in **Section 6** of this statement.

5. STORMWATER AND FLOODING ISSUES

5.1 In this section:

- (a) Andrew Chin and Griffin Benton-Lynne provide updated opinions in response to the revised Sunfield Application and the updated information received from the Applicant in response to comments, to assist discussions at conferencing.
- (b) Dr Roja Tafaraji provides her key opinions, as a parks planner, on the 'dual use' parks issues.

5.2 We have grouped our comments using the issues / questions set out in **both** the Council's and applicant's lists of issues, together with the additional issues identified at paragraph 18(a)-(c) of the Panel's Minute 13 dated 5 November 2025.

5.3 Council family issues are referenced "AC 2.x", while applicant issues are referenced "App 2.x".

A. General concern with the appropriateness of the proposed stormwater management solution

5.4 The applicant's list of issues identifies the following overarching question:

Is the proposed stormwater management strategy for the Sunfield development feasible and resilient whereby the adverse effects can be appropriately managed? [App 2]

5.5 The proposed stormwater management strategy for the Sunfield development raises serious concerns regarding its feasibility and long-term resilience. In an attempt to design a system that is theoretically independent of the surrounding catchment—so that effects are no worse than existing—the applicant has avoided meaningful integration with adjoining landowners, existing drainage patterns, and the natural topography. This has resulted in a high-risk design that is vulnerable to failure in multiple ways. The interdependencies between various stormwater mitigation measures, catchment diversions, topographical modifications, and attenuation devices create a classic cascade failure risk, where the failure of one component could compromise the entire system. This fragility is unnecessary and avoidable. A more robust and resilient approach—such as implementing a stormwater conveyance system that complies with Council's Code of Practice and connects directly to the Papakura Stream—would provide a more reliable and maintainable solution.

B. The design of the four stormwater attenuation basins / basin design intent and water levels

5.6 The Council family and applicant both identify questions concerning the four basins.

5.7 The Council family's first question is:

Given the conflicting information between the Earthtech groundwater memo (Appendix M) and the stormwater response (Appendix N), is the design intent for the attenuation basins to maintain permanent water levels or to operate as dry basins? [AC 2.5]

5.8 There is a key inconsistency between Appendix M (Earthtech Groundwater Memo) and Appendix N (Stormwater Response) regarding basin water levels. Appendix M recommends keeping basins full to prevent groundwater drawdown in peat soils, while Appendix N relies on empty basins to provide flood attenuation. These conflicting approaches cannot both be achieved. Assuming the basins are not kept full, we question whether the review in Appendix M has adequately assessed the risk of long-term groundwater drawdown and its implications for peat soil stability.

5.9 The Council family's second question is as follows (including the accompanying explanation):

How does this design choice influence the geotechnical assessments, particularly in relation to groundwater drawdown, peat settlement, and infrastructure resilience?

Note: This question seeks to clarify the intended operational state of the stormwater attenuation basins. The Earthtech memo assumes permanent water levels to mitigate groundwater drawdown, while the stormwater response indicates a dry basin design to maximise flood storage. This inconsistency has direct implications for geotechnical performance, including the risk of ground settlement in peat soils and the integrity of underground infrastructure. Clarification is essential to assess the adequacy and reliability of the proposed stormwater and geotechnical strategies. [AC 2.5]

5.10 Stormwater drainage in the flat peat topography is closely linked to groundwater levels and long-term settlement risks, these issues are outlined in Section 6; the Awakeri Wetland design required careful groundwater management, yet the applicant's lack of specific mitigations—such as inground barriers—is a notable omission.

5.11 Paragraph 18(c) of Minute 13 identifies an issue as to the:

Size and efficacy of proposed basins (note integration with parks discussion and whether basins are suitable for this dual use)

5.12 The size and efficacy of the proposed basins generally is addressed below. The 'dual use' issue is addressed separately at **item C** below.

- 5.13 There is a lack of clarity regarding the attenuation strategy for Pond 1. The report suggests that peak flows from the upper rural catchment will be attenuated, while development flows may be passed forward unattenuated. This approach is not supported, as short-duration storm events (e.g., 10–20 minutes) could result in significantly greater runoff than greenfield conditions, exacerbating flooding risks.
- 5.14 The proposed bilateral weir system, ranging from 400 to 700 metres in length, is a critical component of the stormwater strategy. However, this design is highly sensitive to construction tolerances and upstream water depths. Even minor variations (e.g., ± 10 mm) could alter flows by up to 20%, posing significant risks to downstream properties. The feasibility of this solution is questionable.
- 5.15 Pond 2 is proposed to discharge into roadside table drains on Airfield Road, which have been observed overtopping during events of less than 2-year ARI. Backwater effects from these drains, especially if non-return valves are used, are expected to cause overtopping of the basins during design events. Formal drainage pathways with sufficient capacity are recommended.
- 5.16 The updated design drawings appear to have removed Pond 3 from the stormwater management layout; however, the Hydraulic Modelling Report dated October 2025 still references Pond 3 as part of the system. This inconsistency creates uncertainty around whether attenuation from Pond 3 is still included in the hydraulic design. Clarification is needed to confirm whether Pond 3 remains a functional component of the stormwater strategy or if its removal has been accounted for in the modelling and overall system performance.
- 5.17 The Applicant's list includes the following overarching question:

Are the four stormwater attenuation basins designed appropriately? [App 2.1]

- 5.18 The proposed design of Pond 4 is considered inappropriate due to significant functional and operational limitations. The 700m long by 90m wide attenuation corridor is expected to remain persistently wet and boggy, with no viable subsoil drainage options due to the lack of fall or discharge points. This will hinder maintenance access, as the soft base precludes vehicle entry and the construction of dry accessways would compromise storage capacity.

The design also raises concerns about stagnant water, which may lead to odour, pest proliferation (e.g., mosquitoes, rats), invasive species, and potential health risks such as avian botulism. The current design lacks flexibility for future improvements, with no allowance for resilience or contingency within the proposed attenuation volume.

5.19 The geotechnical risks associated with the attenuation ponds include:

- (a) Being sited in a low laying area with an existing high groundwater level and therefore offering very limited storage capacity.
- (b) Being sited in an area where cut slope stability concerns constrain adjacent land use to accommodate a safe set-back for development.

C. Whether basins are suitable for dual use, including feasibility of Pond 4 multifunctionality

5.20 As noted above, paragraph 18(c) of Minute 13 identifies an issue as to whether basins are suitable for dual use. There is a related question in the Council's list of issues as follows:

Can Pond 4 accommodate attenuation, amenity, and ecological functions without compromising performance? [AC 2.3]

5.21 The inclusion of recreational and amenity features within Pond 4, as shown in the Open Space Strategy and masterplan, is unrealistic given the frequent inundation and poor ground conditions. The land is less reliable for safe accessible recreation because of the following issues:

- (a) High maintenance burden from erosion, waterlogging, asset damage after inundation events.
- (b) Safety risks from saturated or unstable ground (slips, falls, asset failure).
- (c) Degraded recreational function due to closures, muddy/inaccessible conditions, reduced amenity and community benefit.

5.22 Formal recreation infrastructure is more than just playgrounds and sports fields; it includes broader community-serving facilities like clubrooms, libraries and other buildings delivered via the parks/open-space network.

- 5.23 From a Parks Planning perspective, it is important to note that the capacity of this land to reliably fulfil both formal/informal recreation infrastructure and stormwater management functions is limited. Given the proposed design of the ponds as well as the issues relevant to the proposed peat soil surfacing the ground, significant concerns about the feasibility of this dual-use approach remain. Although on a plan view the open space network may appear adequate, the inappropriate design of the pond(s) (as per the comments by the stormwater engineering experts above) is unlikely to sufficiently handle the full stormwater volumes and associated impacts at built-out development capacity.

D. Downstream conveyancing capacity

- 5.24 The Council's list of issues identifies the following questions:

Are informal farm drains sufficient to convey attenuated flows, or is formal infrastructure required?

What downstream assessment has been carried out as to the suitability of these table drains to act as the primary drainage network? [AC 2.6]

- 5.25 The applicant identifies a question as follows:

Have the local overland flow paths, including through the proposed conditions of consent, been appropriately considered and are the effects acceptable? [App 2.4]

- 5.26 Finally, paragraph 18(b) of Minute 13 identifies a related general issue as to:

Conveyancing capacity to the north.

- 5.27 These questions are addressed together below.

- 5.28 The application proposes to discharge stormwater runoff at pre-development rates for the 2, 10, and 100-year ARI events into existing roadside and farm table drains leading to the Papakura Stream. These drains are not designed to function as primary drainage networks and have minimal capacity to safely convey stormwater flows. Increased frequency and duration of runoff will likely impact the usability of these drains and surrounding land.

- 5.29 Council modelling indicates that downstream landowners, including those at 279 Airfield Rd (Xian Zhang), will experience increased nuisance flooding, particularly during smaller, more frequent rainfall events. To properly manage

these flows, formal conveyance channels capable of handling at least 10-year ARI flows, as per Council's Code of Practice, are recommended.

- 5.30 The applicant claims that short-duration storm events (e.g., 30-minute and 60-minute durations) have been incorporated into the assessment. However, testing appears to have been conducted only for the existing scenario. No information is provided on the effects of the development on downstream flooding during these events. Identifying the storm that produces peak flows does not necessarily capture the events with the greatest impact due to development.
- 5.31 The existing, rural table drains that are known to be undersized for the 2-year ARI event presents a hazard to road users as flows spilling onto the road can create erratic and dangerous responses in drivers. The proposed development will result in a significant increase in vehicle volumes which could expose thousands of additional vehicles to this hazard. The proposed mitigation has not been demonstrated to be sufficient, and simply attenuating to pre-development peak flows does not equate to no increase in risk as the hazard will be present for longer durations with more people exposed to it.
- 5.32 There is an opportunity to prepare an integrated solution in collaboration with NZTA, Auckland Transport and Auckland Council that upgrades the conveyance system to the north of the development which will reduce the risk to existing and future road users and increase the resilience of the overall stormwater management system in the catchment.

E. Risk to McLennan Dam from catchment diversion

- 5.33 The applicant frames this general issue as "Impact on McLennan Dam and the effects on flood protection, water quality, and the structural integrity of the dam".
- 5.34 The following questions are similar and answered together:

Has the applicant adequately assessed the risk to McLennan Dam (a high potential impact classification dam) from the proposed catchment diversion? [AC 2.1]

Are the effects on McLennan Dam appropriately mitigated to ensure that the operation and structural integrity of the dam is appropriately maintained? [AC 2.3]

- 5.35 The McLennan wetland embankment is classified as a high PIC Dam under the Building (Dam Safety) Regulations 2022, designed to manage flows from the upstream catchment, including FUZ land within the Sunfield proposal. A recent classification report identified catastrophic consequences in the event of failure, affecting over 330 people—including two early learning centres—with potential loss of life and widespread property and environmental damage. The dam must be upgraded to meet current safety standards and existing consent conditions before any additional catchment can be connected to the stormwater system. . At a minimum, consent conditions should require the dam to meet safety standards prior to any further catchment diversion.
- 5.36 Furthermore, there are contradictions between the text and flood maps in the 'Updated Stormwater Modelling Report'. The flood maps show an increase in 100-year ARI peak flow over the spillway crest from 9.82 m³/s to 10.28 m³/s, while the text claims a reduction from 11.93 m³/s to 10.52 m³/s. These inconsistencies create significant uncertainty in the report's conclusions.

F. Integration with NZTA Mill Road stormwater system

- 5.37 The Council's list of issues identifies the following question:

How are Sunfield and Mill Road Stage 2 stormwater systems integrated into a coherent strategy? [AC 2.2]

- 5.38 The Panel identifies a similar issue at paragraph 18(a) of the Minute:

The Mill Road Stage 2 NoR and integration with stormwater management

- 5.39 We understand that there are ongoing discussions and general agreement between the applicant and NZTA to integrate Sunfield with Mill Road Stage 2. While we support an integrated stormwater approach, the revised October 2025 proposal represents only a partial solution. Council's recommended minimum 10-year capacity drainage system to Papakura Stream is the practical expression of integration with Mill Road infrastructure. This approach ensures resilience and operability across the wider catchment.
- 5.40 Griffin Benton-Lynne, on behalf of Auckland Transport, supports the approach of an integrated stormwater management strategy between the applicant and NZTA. Further details on how this is proposed to be achieved

should be provided so that a more resilient and catchment wide system can be developed.

G. Flood risk to roads and dwellings

- 5.41 The following Council question, and a related applicant question, are answered together:

***Are roads and finished floor levels designed to avoid flood risk?
[AC 2.4]***

***Are the existing flooding effects appropriately addressed for
Airfield Road and Hamlin Road? [App 2.2]***

- 5.42 In the applicant's 16 October 2025 response, it is proposed to raise Hamlin Road and add culverts under Airfield Road to improve conveyance. However, Airfield Road is still expected to flood, and the downstream drains lack capacity to convey even 2-year ARI events. Without sufficient discharge capacity, additional culverts will not resolve flooding. The response lacks hydraulic analysis to support these claims and does not include minimum finished floor level assessments—critical for evaluating the stormwater system's feasibility and effectiveness.
- 5.43 In the applicant's response dated 16 October 2025 it is stated that local overland flow paths have been considered in the modelling and layout of the site and that roads will safely convey overland flow paths through the site, but also that these have not been modelled. It is unclear how it can be confirmed that roads will safely convey overland flows if the road reserves and carriageways have not been modelled as part of the assessment on flood risk. It is unclear how the overland flow path management or discharge locations can be adjusted at detailed design if it is found that there are hazard flows within the carriageway when the boundaries of the development are set. Additionally, given the sensitivity of the flooding and the limited space allowed for the adjustment of the flood mitigation devices, the assertion that overland flow paths can be adjusted is questionable. It is critical that it is demonstrated the overland flow paths can be safely conveyed in public roads and flows will reach the required mitigation device so that it can be confirmed the devices are sufficiently sized.
- 5.44 In section 3.13 of the applicant's response dated 16 October 2025 they agreed that the proposed development will result increased flood depths

within the existing road reserve of Old Wairoa Road during the 1% AEP event. They asserted that this can be adequately mitigated by the provision of megapits within Old Wairoa Road. Reliance of piped networks to mitigate flood hazard is not supported by Auckland Transport due to the known risk of blockages that can be experienced by surface inlets.

Major culverts within the development

- 5.45 Major culverts (i.e., inlet areas >3.4m²) under important roads (collector or greater) are to be designed in accordance with the NZTA Bridge Manual and are to have a capacity so that the 1% AEP + climate change water level is below the soffit level. This additional freeboard is a reflection of their criticality. Griffin Benton-Lynne notes that the proposed major culverts have not been designed to this level and increasing the capacity at detailed design could change the operation of the sensitive flood mitigation strategy, resulting in adverse effects within or outside the development. There is also limited space allowed for to increase their size, meaning the resilience of these major culverts will either need to be compromised, or consent and boundaries will need to be altered to allow for the sizing required.
- 5.46 Given the complex and interdependent nature of flood mitigation strategy within the development, the impact of blockages of culverts within the development should be assessed to confirm the resilience of the overall system and mitigation and allowances should be made for. Residential areas can produce significant blockage risks due to rubbish bins, outdoor furniture, etc.

H. Vesting of stormwater land / channels, and vesting mechanism

- 5.47 The following questions are similar and answered together:

What mechanism will be used to agree land vesting for stormwater management under the RMA process? Note: The extent of land to be vested in Council is not currently agreed, and if not agreed at consent stage, an alternative mechanism should be provided to allow the extent of this to be agreed outside of the section 223 (RMA) process. [AC 2.7]

Is the extent of land to be vested for stormwater purposes acceptable for public ownership? [App 2.5]

- 5.48 We note that agreement is required between the Council and the applicant on any land proposed for vesting. Consent conditions and scheme plans

should enable both parties to assess vesting suitability, considering operability, risk, and long-term maintainability. Several proposed assets present unresolved design issues and high operational liabilities. Without addressing these concerns, acceptance of vesting of assets that do not meet standards for resilience and serviceability will not be possible.

6. GROUNDWATER AND GEOTECHNICAL ISSUES

- 6.1 In this section, Grant Murray provides his key opinions on the groundwater and geotechnical-related issues raised in the Council's and applicant's lists of issues and at paragraph 18(d) of Minute 13.
- 6.2 This section begins with a general outline of Grant Murray's key opinions, before addressing the specific issues raised in the Council / applicant lists of issues, and in the Panel's Minute 13.
- 6.3 The Applicant is proposing to develop largely low-laying, relative flat "swamp" land that is prone to flooding. The ground conditions over much of the site comprise up to 30m or more of highly compressible soft organic peat deposits and the groundwater level is generally within 1.0-2.0m of the ground surface.
- 6.4 The Applicant is proposing, in the first instance, to form drainage channels and detention ponds to provide conveyance and storage of stormwater. The construction of deep excavations (>2.0m) is difficult given the extremely soft and sensitive nature of the soils and much of the excavation is below the water table. In Table 2 of Section 3.2 of the Geotechnical Addendum LDE highlight five out of six borehole locations where the depth of the proposed earthworks cut is below the existing groundwater level.
- 6.5 If the channels and ponds can be formed they will maintain a permanent water level consistent with the existing groundwater level. Unless the swamp is drained and the groundwater is lowered.
- 6.6 Based on the Geotechnical Addendum I believe the Applicant is suggesting that the groundwater table maybe lowered by 1.5m in Zone 1 (the low-laying "swamp" land). In order to drain the swamp by this amount the groundwater has to gravity feed to the Awakeri Wetlands. There is no topographic or level data offered in the submissions that demonstrate this is feasible.

- 6.7 The Applicant describes the groundwater drawdown settlement implications in Section 3.2 of the Geotechnical Addendum but their assessment is incorrect in the assumption that the thickness of the affected soil is only 1.5m. The change in effective stress caused by groundwater drawdown affects the whole soil column and in Zone 1 they have proved at one location more than 30m of compressible organic deposits.
- 6.8 LDE's assessment of groundwater drawdown induced settlement is <30mm, but where the depth of affected soils is 30m this settlement estimate would increase to 600mm.
- 6.9 The Earthtech Consulting Ltd review commentary dated 26 September 2025 is based on the *"...current surrounding built environment and a permanent water depth maintained in stormwater ponds and channels to limit groundwater drawdowns"*.
- 6.10 This review commentary is of little value given that it offers no insight on the long term, in service, development when the built environment will substantially change and there will be a 1.5m groundwater drawdown.
- 6.11 In Section 3.4 of the Geotechnical Addendum LDE describe the consolidation settlement effects. This would also appear to contain errors. For example, based on the development earthworks plans it would appear that over much of Zone 1 at least 2.0m of imported fill material is proposed before any housing / surface development takes place.
- 6.12 It is reasonable to assume that the increase in effective stress on the compressible soil column by 2.0m of fill material in Zone 1 is equivalent to at least 30kPa. This is twice the increase in effective stress caused by the assumed 1.5m of groundwater drawdown in the same area. It therefore would make sense if the earthworks induced consolidation estimate was double that suggested for the groundwater drawdown.
- 6.13 Using LDE's compressibility characteristics and applying the same logic as described above for the groundwater drawdown induced settlement the earthworks consolidation would therefore be an additional 1.2m (cumulative 1.8m) prior to any "end-use" surcharge from the proposed development.
- 6.14 The implications of this very basic assessment are quite significant. If the Applicant does manage to lower the groundwater table in Zone 1 by 1.5m

and wants to raise the building platforms and road levels 2.0m above existing ground level they will require large volumes of earthworks material to compensate for the induced settlement. It is not clear from the submissions if the Applicant has factored this into their assessment.

- 6.15 The geotechnical submissions to date have been silent on the long term impacts and effects of creep settlements in the extensive deposits of compressible organic soils. This phenomenon is well known to cause significant long-term issues on infrastructure (roads and services) and property as on-going settlement at very slow rates (5mm/month or less) can continue for many years after primary and secondary consolidation due to changes in effective stress on the ground is complete.
- 6.16 Where these assets are to be vested in the Council it is not uncommon for Consent Conditions to stipulate long term settlement performance criteria designed to protect linear infrastructure that will be very difficult to demonstrate as being practicably achievable in these conditions without significant investment in ground treatment and mitigation strategies that are absent in this current proposal.
- 6.17 For this reason many of the developments in this general area and on similar ground conditions have imposed resource and building consent conditions demanding long term settlement monitoring to ensure compliance with specified performance standards. The Applicant should consider these developments, compare them with their proposed activities and determine if the settlement performance of pre-existing developments offers support to their predictions.
- 6.18 The Council and applicant have posed specific questions relating to the issue of groundwater drawdown impacts on nearby assets. The questions are very similar (although not identical) and are addressed together:

Has sufficient assessment been provided to confirm no adverse effects on structures and services along Old Wairoa Road (the section between the roads and junctions of Pākaraka Drive and Nola Dawn Avenue)? Note: the LDE addendum report does not address the groundwater drawdown in respect to the deepest excavation of 18.8m and the groundwater level recorded at this location. [AC 10.1]

Has sufficient assessment been provided to confirm the level of adverse effects on structures and services along Old Wairoa

Road (the section between the roads and junctions of Pākaraka Drive and Nola Dawn Avenue)? [App 10]

6.19 The Applicant has only performed a very rudimentary assessment of the likely groundwater drawdown impacts and effects across the site. They have not specifically addressed the deeper excavations referenced in this query or others. Adverse effects of excavation and groundwater on existing or proposed buildings, structures and infrastructure, which are intended to be vested to Auckland Council, also cannot be understood given the lack of assessment.

6.20 The Council has also posed a separate question relating to adequacy of mitigation measures as follows:

Are proposed mitigation measures sufficient to avoid, remedy or mitigate settlement effects from groundwater drawdown on existing and proposed buildings, structures and infrastructure (including stormwater and roading)? [AC 10.2]

6.21 In the Geotechnical Addendum LDE state “Groundwater drawdown should therefore be dismissed as a geotechnical issue and a Consent (if deemed necessary) issued for this proposed development.”

6.22 However, LDE do also reference the use of surcharge as mitigation for groundwater drawdown and differential settlement. It is not explained how this would necessarily offer any long term settlement performance improvement.

6.23 LDE also suggest that keeping lots 25m away from groundwater drawdown sources. It is not clear from the current plans that this has been routinely achieved but the drawdown and settlement extent of 25m may be significantly underestimated given the errors identified in their assessment and lack of technical peer review.

6.24 Finally, the Panel at paragraph 18(d) of Minute 13, sets out the following issue:

Groundwater drawdown and the effects of this on the ability to develop the land. This issue may have particular relevance in the eastern area of the site.

6.25 I have addressed this general issue in my discussion above.

DATED the 7th day of November 2025

Andrew Chin

Head of Healthy Waters Strategic Initiatives at the Council

Griffin Benton-Lynne

Consultant water infrastructure engineer, Awa Environmental Limited

Dr Roja Tafaraji

Senior Parks Planner, Parks & Community Facilities Department at the Council

Grant Murray

Independent consultant engineer (geotechnical), Grant Murray & Associates Limited

ATTACHMENT 1

Qualifications and Experience of Dr Roja Tafaroji and Grant Murray

Dr Roja Tafaroji

1. I am a Senior Parks Planner in Parks Planning team, Department of Parks and Community Facilities at Auckland Council.
2. I hold a PhD in Planning from The University of Auckland, a Master of Urban Design from Iran University of Science and Technology, and a Bachelor of Architecture from Guilan University.
3. I am an Associate Member of New Zealand Planning Institute (NZPI).I joined Auckland Council in 2019, where I have gained extensive experience across Resource Consent Planning, Service and Asset Planning and Parks Planning teams.
4. Prior to joining Auckland Council, I worked at The University of Auckland as a Research Assistant and Graduate Teaching Assistant while undertaking my doctoral studies in Urban Planning within the School of Architecture and Planning.
5. I have more than 15 years of professional experience as an architect, urban designer, researcher, service and asset planning analyst, urban planner and parks planner in both Iran and Aotearoa New Zealand. My professional experience includes reviewing and assessing complex resource consent applications and plan changes, and providing expert evidence to the hearing panels on open space and parks matters.

Grant Murray

1. I am an independent Consulting Engineer practicing in Geotechnical and Dam Safety Engineering.
2. I hold a Bachelor's degree in Civil Engineering and I am a Chartered Professional Engineer, Recognised Dam Safety Engineer (PIC & DSAP) and Fellow of Engineering New Zealand.
3. I now have thirty nine years of practical, local and international experience including:
 - (a) 10 years as a Principal & Director of Grant Murray & Associates Ltd

- (b) 18 years as Geotechnical Engineering Manager and Practice Leader for Kingston Morrison / SKM / Jacobs based in Auckland.
- (c) 12 years as Civil/Geotechnical Engineer based in the UK.