

Memorandum

To: Expert Consenting Panel - Ashbourne
From: Dean Morris (Maven Waikato Limited)
Subject: Ashbourne, Matamata –Maven Technical Response Memorandum
Date: 18th November 2025

1 Introduction

The purpose of this memorandum is to provide information in support of the Fast track application process for the proposed Ashbourne development in Matamata. It is a collated general response across the different engineering matters including groundwater, stormwater, flooding, wastewater, water supply, construction traffic and infrastructure capacity which were from neighbours submissions, expert evidence and council requests for further information.

Please read this Memorandum in conjunction with the Fast track specialist consultants group supporting technical documents prepared by Maven, WGA, CMW, Innoflow, Commute, Greenwoods Associates and Barker and Associates Section 53 Tracking Table.

2 Executive Summary

The proposed design for Ashbourne has now been refined from the updated ground water monitoring, ground water contouring and technical review completed by Maven, WGA, CMW, Innoflow and other specialist, as well as expert evidence through submissions. Summary as follows:

Existing Groundwater Levels

- Continuous monitoring and updated groundwater contouring has identified seasonal high levels.
- Soakage is retained only where verified separation exists and supplemented by subsoil drainage and trench redundancy.
- The Greenway will contribute to long-term groundwater drawdown across the northern areas.

Flooding and Stormwater

- The stormwater system has been redesigned in response to confirmed high groundwater levels, with wetlands replacing soakage in northern areas.
- The Greenway provides a new conveyance and storage corridor, resolving existing flooding issues that currently affect Station Road and Highgrove.
- Post-development flows are reduced to 80% of pre-development discharge for both the 10-year and 100-year ARI climate change events.
- Flood modelling confirms that flood extent and depth are reduced beyond the site boundary.
- A sensitivity model assuming zero soakage and blocked pipes confirms the system retains performance under failure conditions.

Existing Infrastructure Capacity - Water and Wastewater

- Capacity exists within the wider water and wastewater network, subject to upgrades which Ashbourne has committed to deliver and fund through a Private Developer Agreement (PDA).
- Collaboration with MPDC and WDC has ensured the design aligns with growth planning, avoids burdening existing ratepayers, and allows staged and scalable upgrades.
- Electrical resilience will be supported through embedded solar generation within the development

Construction Effects

- A draft Construction Management Plan and Traffic Management Plan have been prepared to address noise, vibration, dust, access, safety and haul routes.

Private Onsite Wastewater – RV

- The retirement village will use an advanced secondary AdvanTex treatment system designed to NZS 1547:2012.
- Disposal fields will be raised to maintain 600 mm clearance to peak groundwater.
- A 50% reserve field is included as accepted by Waikato Regional Council for advanced systems.

Water Supply

- Water supply modelling confirms sufficient capacity for the development with only minor internal upgrades anticipated.

3 Response (Maven)

1. General Response Groundwater Levels

- a. This response addresses concerns raised by neighbouring property owners regarding existing high Groundwater Levels (GWL) in the area and how land can be developed under natural constraints in terms of High GWL environments. They are typically managed through a combination of engineered solutions such as subsoil drainage, stormwater pipe networks, wetlands, stormwater greenways and other engineered solutions designed to control seasonal high groundwater.

Through our design process and CMW field investigations we encountered free-draining soils through the proposed Southern Residential Catchment (south of Peakedale Drive and extending toward the head of the proposed greenway). These soil conditions support the use of soakage-based stormwater solutions in this area. As noted in recent testing by WGA, the northern areas south of Station Road present a different condition with high existing GWL and limited natural soakage potential.

Based on WGA's GWL contours, the proposed Southern Residential Catchment (south of the newly developed Peakedale subdivision) shows peak GWL approximately 6.1m below existing ground levels. This depth provides sufficient clearance for primary stormwater reticulation to be managed via soakage trenches located within the road reserve and maintaining the required minimum 1 m separation from GWL. CMW's onsite percolation testing in this southern area returned a soakage rate of 613 mm/hr, to which RIT's factor of safety of 0.5 has been applied for design purposes.

This allows the primary stormwater reticulation in the southern catchment to be soakage trenches within the road reserve that are well clear of GWL which requires a minimum clearance of 1m. From CMWs percolations testing undertaken onsite in this Southern Residential Catchment area a soakage rate of 613mm/hr rate was adopted with RITs soakage rate factor of 0.5 applied. Redundancy exists within the soakage system by interconnecting all the trenches with an outfall to the dry basin pond B

In the Northern Residential Catchment, including the Retirement Village, recent results from WGA's winter monitoring (November 2025) indicate that peak groundwater levels are 0.5-1m below existing groundwater levels. These levels are close to the existing ground levels and reflect naturally tight soils which have less voids with little to no effective soakage capacity, confirmed through onsite testing which recorded soakage rates of approximately 31-78 mm/hr.

Given the soakage and GWL being undesirable the decision has been made to revert to conventional stormwater lines as outlined below for these catchments (northern catchments including retirement village):

- A conventional piped stormwater network;
- Discharge to the proposed artificial wetlands and raingardens;
- Traditional Kerb Subsoil drainage beneath road corridors to keep groundwater away from roading subgrade to avoid deterioration over the intended life.

These levels are based on existing ground levels, or predevelopment Groundwater level environment and the proposed levels will be lifted higher in much of Northern Catchment using surplus fill from the southern catchment, stage 1 earthworks.

Within the South-Western Residential/RV Catchment, investigations show that existing peak groundwater levels are approximately 2.0–3.0 m with variable soakage rates recorded across the area. Percolation testing undertaken in this catchment recorded soakage rates of 200 mm/hr which is reduced using the RITs factor of 0.5 provide a suitable basis for soakage-supported stormwater design which then discharge into the greenway

The construction of the Proposed Greenway will have a substantial catchment wide benefit by creating a stormwater storage and conveyance channel that allows existing stormwater, existing peak groundwater and proposed stormwater to discharge to the Waitoa Stream where the current stormwater network in this area isn't freely doing, providing a net enhancement to the surrounding areas for example reducing overland flow to Station Rd and the northern catchments.

Furthermore, the combination of the infrastructure described above will lower the peak groundwater elevation preventing areas of ponding due to groundwater. Also refer to WGA's memo which provides more details on the future expected peak groundwater levels.

With the Hemmings block included in this application, it provides a corridor for the Greenway not available / considered with the earlier Council Plan change in which now stormwater and groundwater can be discharged to the Waitoa Stream directly fixing this stormwater issue. This fix is simply to create fall to drainage but the Greenway and basins also serve a second purpose as it allows for the existing ponding / flooding and additional runoff from impervious surfaces to be concentrated in one more easily managed central location as opposed to the current network of smaller farm drains and roadside channels.

For more technical information please find appended to response updated ground water assessment memorandum (WGA) and stormwater management plan (Maven).

Neighbours General Response Groundwater Levels

| Neighbours Response Number | Name |
|----------------------------|--|
| 3. | Michael Freegard, 218 Station Road |
| 4. | Aaron Bennet on behalf of Pippins Development Limited Partnership |
| 6. | Ian Hayes, 56 Peakedale Drive |
| 10. | David Webb – 182 Station Road |
| 12. | Station 143 Limited and Begovich Investments Limited, Highgrove Avenue |
| 13. | Roger & Elizabeth Coutts, 9 Highgrove Avenue |
| 14. | Hayden & Alesha Begovich, 10 Highgrove Avenue |
| 15. | Penny Vulgar & Brad Peterson, 196 Station Road |
| 18. | Angela Jones, 172 Station Road |
| 19. | Martin Althuizen, 22 Eldonwood Drive |
| 24. | Kelly and Jacob Henderson, 24 Eldonwood Drive |
| 25. | Mark and Tracy Cresswell, 26 Eldonwood Drive |
| 27. | Wayne and Adrienne Tobeck, 2 Chestnut Lane, Eldonwood |
| 29. | John Lee, 129A Station Road |
| 34. | Roger Slatterly, 164 Station Road |
| 37. | John and Maria van Heuven, 285 Station Road |
| | |

2. General Response Flooding

- a. This stormwater response should be read in conjunction with Section 1(a) of this memorandum and the supporting documents referenced herein, including the updated Stormwater Management Plan (SMP).

This response addresses concerns raised by neighbouring property owners in relation to stormwater management, discharge rates, existing flooding in the area, ponding that stagnates during peak levels and flood effects associated with the proposed Ashbourne Development.

The stormwater management strategy has been refined to reflect the latest groundwater constraints and now includes a combination of wetlands, subsoil drainage, soakage where appropriate, piped reticulation and proposed greenway system. The Stormwater Management Plan (November 2025) has been updated to reflect this integrated approach and is appended.

As outlined above the winter monitoring and further Geotechnical assessment undertaken by WGA and CMW, initially showed lower groundwater, possibly perched, which aligns with dry basins and soakage-based systems, these are now no longer suitable for the peak ground water

levels in certain areas. The fluctuation between summer and winter levels weren't predicted as they are higher than usual but align with free draining soils but with the groundwater so high, the soakage becomes ineffective.

Northern Catchment C & D – Residential and Retirement Village

This has affected the Northern Catchment the proposed residential and entire retirement village catchments. As a result, the proposed stormwater devices for these areas have been upgraded to treatment and attenuation wetlands which don't rely on soakage and can operate independently of groundwater peak levels. These wetlands provide the required water quality volume (WQV), extended detention and 10- & 100-year storm event (including climate changes) attenuation while having a controlled discharge rate and 80% predevelopment rates. To clarify, this means the discharge post construction is based on current storm events (not including climate changes) at 80% of the existing. Wetlands also offer up more of an environmental benefit when well maintained.

The Retirement Village catchment has been revised, as has the Northern Residential Catchments, from the original dry basin / soakage concept to a wetland-based solution consisting of artificial wetlands and raingardens that provide treatment and attenuation before discharging to the downstream system. These changes improve performance and are consistent with regional stormwater guidelines for high GWL environments. The SMP includes the updated design and hydraulic modelling which confirms compliance with peak flow targets and water quality volume standards.

Southern Catchment A – Residential

In the Southern Residential Catchment, as outlined above, there is free-draining soils and lower peak groundwater levels. The stormwater strategy, like newly constructed Peakedale Development, continues to utilise soakage-supported stormwater design including interconnected soakage trenches within the road reserve that then discharge to Dry Basin A. Redundancy is built into this system via an overflow connection to Dry Basin A to ensure system resilience during extreme conditions or reduced soakage capacity.

South-Western Catchment B - Proposed Greenway

A key component to the overall stormwater strategy is the proposed Greenway, which provides substantial catchment-wide benefits by constructing a stormwater storage and conveyance corridor that controls existing and proposed flows to the Waitoa Stream. The Greenway enables stormwater and elevated peak groundwater to discharge to the Waitoa Stream, improving the lack of outlet capacity which contributes to ponding and existing overland flow path effects in surrounding landowners including at Station Road water table drains by diverting a lot of the existing southern catchment via proposed greenway. The Greenway also offers other benefits such as ecological habitat, native planting and extended reduced flood risk. With the inclusion of the Hemmings Block, the corridor required for this Greenway and associated basins is now available, which was not achievable under the earlier structure plan.

Operation and Maintenance

As part of this application, we have also provided an updated Stormwater Operation and Maintenance Plan, based on Waikato Regional Councils own guidelines, to ensure that once the developers maintenance period (generally 5 years) is over and ownership of the Stormwater devices are vested to District Council, they are kept to a fully functional standard.

Flood Modelling

Across the entire development, stormwater modelling software HEC-HMS (design) and HEC-RAS (sensitivity) used to confirm post development flows discharge rates will meet the Waikato Regional Council standards of 80% predevelopment flows for both the 10-year and 100-year (including climate changes 2100-2120 +3.8 degrees) storm event. This applies to all discharge points, including the northern outlets and the Greenway. Full model outputs are provided in the updated SMP (7.3 Design flow results – Existing discharge points).

Redundancy

Significant redundancy has also been built into the design. The Stormwater Management Plan (SMP) includes a sensitivity flood analysis assuming zero soakage and fully blocked pipe networks. The results demonstrate that, for a 100-year ARI storm event including an RCP8.5 climate change adjustment, the proposed stormwater management system mitigates flows and flooding beyond the project boundary is reduced, as shown in Maven Flood extent plans C411 and C412. This is a key consideration in the context of the neighbours submissions of flooding around Station Road and the Highgrove development. The proposed design will reduce this flooding by virtue of diverting overland flow and containing it within the Greenway while providing large wetlands with flood storage within the RV and Northern residential catchments.

Summary

The Ashbourne development results in significant improvements to across the catchment including Highgrove and the Station Road residents with respect to stormwater and flooding.

The proposed Greenway intercepts a large part of the catchment that otherwise flows through Highgrove and Station Rd. It bypasses these areas by diverting the flows directly to the eventual receiving environment the Waitoa stream while providing additional storage to replace what would otherwise be stored in the Highbrook and Station Rd drains.

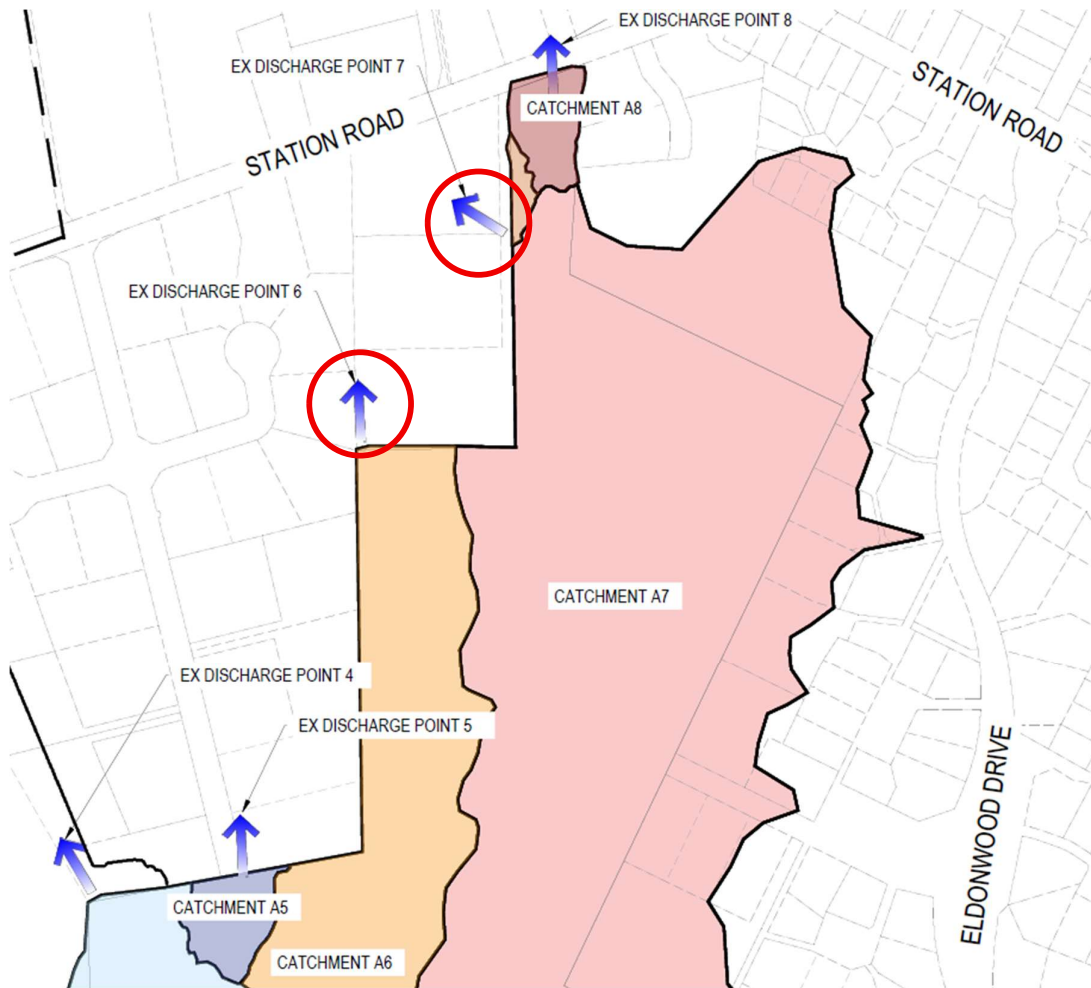
Soakage and dry pond storage, while not proposed everywhere with the high-water table in the lower lying areas of the north, some are still proposed where suitable vertical clearance is available.

Detention Tanks are proposed to dwellings within the northern catchment where soakage vertical clearance is not achievable.

The proposed wetlands to the retirement village and northern residential catchments include detention for events upto the 100yr event with slow release below predevelopment levels.

The result is a significant reduction in peak flows of stormwater runoff to Highgrove and Station Rd as follows:

| | Pre dev flow m3/s | Post dev flow m3/s | Pre dev runoff m3 | Post dev runoff m3 |
|---|----------------------------------|---------------------------|---------------------------------------|---------------------------|
| Western RV channel | 0.869 | 0.69 | 20215 | 31422 |
| North-Eastern Res channel (See screenshot for A6 and A7 outlets) | A6 +A7 1.06+2.96= 4.02 | Outlet A6 0.827 | A6 +A7 9713+37470= 47183 | Outlet A6 24803 |



Screenshot of A6 and A7 existing discharge points

Noting, the above discharges and volumes doesn't allow for added redundancy onsite.

For example:

- On lot volume tanks where soakage isn't viable;
- Retention Soakage trenches on lot and road reserve where applicable;
- Wetland retention when GWL are not at peak.

For more technical information please find appended Maven stormwater management plan dated November 2025.

Neighbours General Response Flooding

| Neighbours Response Number | Name |
|----------------------------|---|
| 3. | Michael Freegard, 218 Station Road |
| 4. | Aaron Bennet on behalf of Pippins Development Limited Partnership |
| 6. | Ian Hayes, 56 Peakedale Drive |

| | |
|-----|---|
| 10. | David Webb – 182 Station Road |
| 12. | Station 143 Limited and Begovich Investments Limited, Highgrove Avenue |
| 13. | Roger & Elizabeth Coutts, 9 Highgrove Avenue |
| 14. | Hayden & Alesha Begovich, 10 Highgrove Avenue |
| 15. | Penny Vulgar & Brad Peterson, 196 Station Road |
| 17. | Graeme and Jenny Purches, 37 Peakedale Drive |
| 18. | Angela Jones, 172 Station Road |
| 19. | Martin Althuizen, 22 Eldonwood Drive |
| 20. | Corinne Bagur & Ian Hammond, 7 Chestnut Lane, Eldonwood |
| 21. | Robyn Ma and Steven Li, 129B Station Road |
| 24. | Kelly and Jacob Henderson, 24 Eldonwood Drive |
| 25. | Mark and Tracy Cresswell, 26 Eldonwood Drive |
| 27. | Wayne and Adrienne Tobeck, 2 Chestnut Lane, Eldonwood |
| 29. | John Lee, 129A Station Road |
| 34. | Roger Slatterly, 164 Station Road |
| 35. | Jessica Wilson, 250 Station Road |
| 37. | John and Maria van Heuven, 285 Station Road |
| 38. | Fiona Stoffer, 164 Station Road |
| 43. | P&M Equipment Hire Limited, 5 Odlum Drive |
| | |

3. General Response Receiving Infrastructure Capacity (Wastewater and Water)

- a. We have worked in close collaboration with Matamata-Piako District Council (MPDC) to ensure alignment with local planning frameworks, statutory obligations, and community expectations. This partnership has reduced duplication and built trust among expert engineers. It also ensures that infrastructure decisions are consistent with district growth strategies and the principles outlined in the draft PDA Memo – refer MPDC Comments Annexure K. A detailed review via modelling of current infrastructure capacity and connection options was undertaken to prevent over-investment and ensure upgrades are targeted. This process included hydraulic modelling and technical assessments to confirm that initial connections will not compromise service levels in adjacent areas. The review also identified downstream effects, such as pressure zones and treatment capacity, before committing to upgrades, and considered all future growth to ensure Ashbourne does not take any of the available capacity. For example, the Existing Base Scenario used for Water supply modelling, prior to Ashbourne connection, was based on all planned future growth connected for the year 2053.

Following extensive engagement between Maven and MPDC technical experts, it was agreed that capacity is available subject to specific improvements and upgrades, which Ashbourne has committed to implement and help fund via a Private Developer Agreement. These include upgrading the existing wastewater pump station with extra emergency storage, which is already over capacity and requires enhancement, replacing undersized and aging pipework on Burwood Road, and paying full development contributions toward MPDC's ongoing wastewater treatment plant upgrade which is currently being undertaken. Water supply has been tested and modelled with capacity available with a worst-case scenario of some minor upgrades to increase pressure (booster pump) maybe required within Ashbourne development. These improvements, when considered alongside Insight's evidence, will reduce the financial burden on Matamata-Piako District ratepayers and infrastructure budgets in the short term.

Ashbourne will deliver a collector road linkage through the development between Northern Boundary of Stage 8 and eastern boundary of stage 1 which will eventually link Station Road and Firth Street respectively pending Council Designation process. This is identified in MPDC's structure plan and previously recognized when the land was rezoned as rural residential. MPDC has already procured land at the Firth Street end and allocated some funding, commitment to designate, and Ashbourne has agreed to assist with costs associated with completing this linkage, which will alleviate pressure on other parts of the road network. Until this linkage is completed, the PDA and proposed consent conditions require any necessary upgrades to the existing network, should development stages progress faster than the linkage, to be identified through an Integrated Transport Assessment and undertaken by Ashbourne. These works have already been scoped by MPDC and Ashbourne's technical experts, and no other roading constraints have been identified by NZTA or other experts.

Electricity supply is a national issue, with aging infrastructure and demand outpacing generation capacity, particularly in the North Island. Ashbourne's proposed solar generation will provide electricity at the point of demand, supporting residential and retirement village developments and reducing reliance on South Island transmission.

For stormwater, Ashbourne's greenway will intercept overland flows that would otherwise discharge north toward Station Road. This greenway will store floodwaters onsite, reducing offsite stormwater impacts for Station Road residents. Additionally, the greenway and proposed

wetlands offer significant ecological benefits by preserving and enhancing natural habitats compared to the existing farm drains and table drains, which require regular excavation and cleaning.

The principle that development funds its own infrastructure upgrades has underpinned discussions between MPDC and Ashbourne. Development Contributions and staged upgrades align costs with demand, ensuring fairness and financial sustainability. This approach prevents existing ratepayers from subsidising new development. Infrastructure upgrades will occur only when specific, measurable thresholds are reached, such as number of lots or peak flow demand. This avoids premature investment and ensures scalability based on actual growth. Staged delivery and developer-funded upgrades minimize exposure to cost overruns or underutilised assets and conditional consents will be tied to infrastructure capacity checks before additional titles are issued. Development Contributions and upgrade timing have been considered and agreed in principle, and these commitments will be embedded in the PDA to ensure enforceability and transparency.

Refer to Supporting documentation, including MPDC Comment Annexures I and K and the draft PDA, providing detailed technical feedback, financial principles, and formal agreements with MPDC.

Neighbours General Response Receiving Infrastructure Capacity (Wastewater and water)

| Neighbours Response Number | Name |
|----------------------------|--|
| 1. | Peakedale Neighbours |
| 4. | Aaron Bennet on behalf of Pippins Development Limited Partnership |
| 6. | Ian Hayes, 56 Peakedale Drive |
| 10. | David Webb – 182 Station Road |
| 12. | Station 143 Limited and Begovich Investments Limited, Highgrove Avenue |
| 13. | Roger & Elizabeth Coutts, 9 Highgrove Avenue |
| 14. | Hayden & Alesha Begovich, 10 Highgrove Avenue |
| 15. | Penny Vulgar & Brad Peterson, 196 Station Road |
| 16. | Dionne Caulfield and Hayley Caulfield, 40 Eldonwood Drive |
| 19. | Martin Althuizen, 22 Eldonwood Drive |
| 20. | Corinne Bagur & Ian Hammond, 7 Chestnut Lane, Eldonwood |
| 24. | Kelly and Jacob Henderson, 24 Eldonwood Drive |
| 25. | Mark and Tracy Cresswell, 26 Eldonwood Drive |
| 26. | Nigel and Kat Ross, 18 Eldonwood Drive |
| 31. | Ian & Joanne Morgan, 32 Eldonwood Drive |
| 38. | Fiona Stoffer, 164 Station Road |
| 48. | Eldonwood Residents Association |
| 49. | Brogan and Gemma Connor, 45 Eldonwood Drive |

4. **General Response Construction Traffic**

- a. This response addresses concerns raised by neighbouring property owners and traffic engineer regarding construction traffic.

A Construction Management Plan (CMP) is a formal document that outlines how construction activities will be managed to minimize risks, ensure compliance, and deliver the project efficiently. It is required by councils or regulatory authorities as part of consent conditions.

The Purpose of a CMP is

- To protect public safety and amenity during construction.
- To Manage environmental impacts such as noise, dust, vibration, and stormwater runoff.
- To coordinate logistics like traffic management, site access, and material storage.
- To ensure compliance with health and safety regulations and local bylaws

A Draft CMP is provided with application and is attached. A Final CMP will be prepared by the contractor and approved by Regional and District Councils prior to works commencing and compliance will be monitored throughout the duration of the works.

Within this document there are number of items that address neighbours general construction traffic concerns. The CMP also covers other items that have been raised in some neighbour comments so have been included here. Please refer to full CMP attached.

Access/Haul Roads

The site will have two main accessways which will be utilised based on specific earthworks operation on site. These entrances will be the primary site entrance and will be utilised during construction. These two main entrances are located at Station Road and Peakedale Drive.

Peakedale Drive will only be used for Stage 1 and 2. Access and use of this public road network will be carefully managed during approved working hours and will be a key requirement and form part of the evaluation of contractors. Public consultation will be ongoing to manage concerns will be a critical deliverable for the project management team. See 3.12 below. With a Cut to Fill balance within stages 1 & 2 (even topsoil will be retained on site) construction traffic will be limited to delivery vehicles, pavement, surfacing, and drainage materials and contractor light vehicles, i.e. Utes.

Stage 3 and beyond will be accessed via an internal Haul Road from Station Road to minimise construction traffic and disruption to Peakedale and Stage 1 and 2 completed works. A TMP will be required at station road entry at this time. It is also possible the Firth St designation and collector road linkage will be made available that will provide another the main access point – timing on this cannot be confirmed by MPDC at this point.

It will be contingent on the Contractor that these site accesses will be fenced off and monitored. Queuing or parking on Peakedale Drive will not be acceptable and the gate will be set within the site as soon as practically possible. Only authorised personnel and nominated visitors can enter the construction site. This also includes ingress for emergency vehicles as dictated by signage at the site entrance.

The Bulk earthworks operation will require multiple internal haul roads for transporting the cut and fill material. The access track and haul road have the following features.

- The track will be a metal road approximately 3m to 5m wide with drainage swales beside the road formations as required, which will act as a cut-off to divert runoff.
- Upon cessation of site work the track will be removed.

Working Hours

All construction activities will adhere strictly to the approved consent hours of work generally set at 7.30 a.m. to 6.00 p.m. Monday to Friday, and 8.30 a.m. to 4:30 p.m. Saturday. No work will occur Sundays or public holidays.

Complaints

Complaints will be addressed first-hand by the site construction manager and proactively followed up on. There will be a complaint register record for detailing the investigation and response. The key contact personnel will be available at site entrances for the public to contact in case of emergency or complaint lodgement.

Vibration Control

A construction vibration assessment will be done prior to construction commencing from a Vibration Consultant. The effects of vibration during construction are expected to have less than minor effects on any surrounding receiver and will be reasonable in terms s16 of the Resource Management Act.

Some of the mitigation methods for vibration control are:

- Residents will be advised prior to construction activities being undertaken near their buildings.
- The lightest practicable model of vibration inducing plant shall be used within 30m of any dwellings.
- Compaction shall be performed using the lightest practical compaction equipment with the highest practicable vibration frequency to achieve specified compaction.
- Excavator operators shall avoid banging buckets on the ground and workers will be advised on minimising vibration.

Styles Group undertook Construction Noise Assessments regarding vibration effects, in the event of any issues being raised, vibration monitoring can be undertaken.

Noise Control

Modern plants and equipment are all fitted with exhaust mufflers and soundproofing that are designed to reduce plant noise and have been manufactured to meet international standards. All items of plant are subject to periodic maintenance checks to ensure they can be operated safely and as intended. If complaints are received, they will be taken seriously, and every effort made to minimise disturbance e.g., continue work in that area at a time that might be more amenable to the complainant(s). Any noise complaints will be followed up with the complainant and will also be discussed at project site meetings. They will also become subject matter at the weekly site toolbox meetings.

If it appears that noise levels are approaching the allowable limits, then an alternative methodology may need to be deployed (i.e. smaller equipment, lower engine revs). The implementation of additional options will be undertaken in consultation with the regulatory authorities, Principal, and Engineer, including, if required and instructed, engaging a noise

monitoring specialist to measure and report on-site construction activity to ensure compliance with NZS6803 (NZ Standard for Acoustics – Construction Noise).

Styles Group undertook Construction Noise Assessments regarding noise impacts in the event of issues being raised, noise monitoring can be undertaken.

Stabilised Site Entrances

The contractor shall ensure that all entrances to the site are constructed upon establishment or prior to any intended use. Entrances shall be an area of stabilised and well compacted aggregate constructed and maintained for heavy vehicle use. These entrances shall be constructed in accordance with the agreed, proposed (as per C200 Earthworks drawings), or adopted local Council guidelines, an example of which can be found within the appended standard details.

Tractor sweeps and watercarts will contingency options be on hand to maintain a clean and tidy entry and exit point. A wheel wash may also be considered to manage this risk.

Dust Control

For the proposed works, dust generated at the site is likely to have the greatest effect on any existing residential properties bordering the site. To achieve no nuisance dust emissions, the following preventive measures shall be implemented:

- Dampening down of potential dust generation areas with a water truck;
- Mulching and grassing stockpiles and built levels where or when practicable;
- Chemical dust suppressants, used as per manufacturer recommendations as a method of sealing problematic or largely unfinished areas, if the previously mentioned methods fail to mitigate the dust appropriately.
- Ensuring that surfaces are constructed to their final design requirement and are stabilised as quickly as practicable; and
- Controlling reduced vehicle speeds.

Wind conditions should be monitored to assist in daily planning of works to minimise the potential for excessive dust generation and off duty monitoring will be a requirement.

There are various water supply options to be considered by the contractor and project team. Tank storage onsite may also be a contingency measure.

Traffic Management

A comprehensive Traffic Management Plan (TMP) will be produced by the contractor prior to the commencement of works. The TMP will address all construction-related vehicle movements, with particular attention to minimising disruption to surrounding residents and maintaining safe traffic operations.

Key measures include:

- Designated Access Points: Entry and exit to the construction site shall occur only via Station Road and Peakedale Drive. (or Firth St once established)
- Construction Traffic Routes: Heavy vehicle routes shall be pre-approved by Matamata-Piako District Council and appropriately signed. Where narrow roads are encountered specific TMP controls can be used to ensure safety
- Vehicle Control Measures: Construction accessways will be controlled with security gates with entry restricted to authorised vehicles.
- Dust and Debris Management: Receiving road network will need to be monitored for debris being carried into the local roading network. Vehicle wheel wash facilities maybe required at exits to prevent debris onto public roads.

- **Traffic Safety:** All traffic management measures will comply with Waka Kotahi (NZTA) Code of Practice for Temporary Traffic Management (CoPTTM) requirements.
- **Public Notification:** Residents along haul routes will be notified in advance of any significant truck movements or temporary road works. A letter drop will be undertaken by the nominated contractor prior to construction works commencing.

Temporary traffic signage, traffic controllers, and restricted construction hours may be employed during peak traffic periods to further minimise disruption.

For more information, please refer to Commutes Integrated Transportation Assessment submitted at this application.

Community and Stakeholder Engagement

Ashbourne acknowledges the importance of proactive communication with the community throughout the construction period.

The following items are suggested to be implemented:

- **Pre-Construction letter drop** will inform residents and businesses of the construction schedule, accessways, and key project contacts.
- **Complaints Register:** A designated Site Liaison Officer will be appointed to manage complaints and queries. Contact information will be displayed at all site entrances.
- **Response Protocol:** Complaints will be acknowledged within 24 hours and notified to the local authority (MPDC) with a follow-up and action plan provided within 72 hours.

Maintaining positive relationships with locals is a priority to ensure the project proceeds with minimal disruption and community support is a key objective.

Please refer to full CMPs for further details.

Like the over 100 Lots that have been constructed in recent years via Jellicoe Road it is the responsibility of Ashbourne and the contractor to manage risks and ensure compliance with CMP obligations and fix any defect from the works on existing roads.

Neighbours General Response Construction Traffic

| Neighbours Response Number | Name |
|----------------------------|---|
| 2. | Peakedale Neighbours |
| 2. & 30. | Ken Johnson & Chris Johnson 60 Peakedale Drive |
| 3. | Michael Freegard, 218 Station Road |
| 4. | Aaron Bennet on behalf of Pippins Development Limited Partnership |
| 6. | Ian Hayes, 56 Peakedale Drive |
| 17. | Graeme and Jenny Purches, 37 Peakedale Drive |
| 19. | Martin Althuizen, 22 Eldonwood Drive |
| 20. | Corinne Bagur & Ian Hammond, 7 Chestnut Lane, Eldonwood |
| 27. | Wayne and Adrienne Tobeck, 2 Chestnut Lane, Eldonwood |
| 43. | P&M Equipment Hire Limited, 5 Odium Drive |
| 49. | Brogan and Gemma Connor, 45 Eldonwood Drive |
| | |

5. **General Response Private Onsite Wastewater-Retirement Village**

- a. This response addresses concerns/questions raised by stakeholders around the private Retirement onsite wastewater should be read in conjunction with the supporting documents referenced herein, including the Maven Wastewater engineering plans and updated Innoflow design plans and report.

The onsite wastewater system has been designed in accordance with NZS 1547:2012 and AS/NZS 1547 requirements and is based on a design loading of 165 litres per person per day, in accordance with Table H3 of the standard. The proposed treatment system is a two-stage AdvanTex (AX1000 + AX300) system which provides secondary treatment and land-based disposal. This system is widely consented for high-performance wastewater treatment in similar environments and has not exhibited operational issues relating to pharmaceutical concentrations in any of Innoflow's existing installations to date.

As outlined in previous sections, the peak groundwater levels are high across the northern area of the site including the proposed Retirement Village area. To ensure adequate vertical offset from existing groundwater levels within the effluent disposal area will be raised to provide a minimum of 600 mm vertical clearance above peak groundwater levels as identified in the WGA groundwater modelling. This fill will be unused topsoil from earthworks onsite. All tanks, pipes and manholes will be sealed systems to prevent inflow in peak groundwater levels and wet weather. Anti floatation measures will be used like anchoring or collaring to prevent movement in these conditions when required.

Odour control has been addressed through the inclusion of activated carbon venting at both the pump station and the main treatment plant. All air discharged from the plant will be scrubbed through activated carbon, ensuring effective odour mitigation.

We propose to raise the land to achieve minimum 600mm vertical clearance above peak groundwater levels in the effluent flow dispersal field. This will be undertaken with excess topsoil. Based on the investigations and design completed to date, we believe the proposed dispersal field and reserve field are viable and the location and area is confirmed as shown on Maven's updated engineering plans and scheme plans. Wastewater infrastructure below peak groundwater levels will be sealed (PVC piping, PE piping, manholes, tanks and chambers) to minimise infiltration and inflow into the wastewater system as well as the land disposal area. All wastewater treatment plant tanks and the wastewater pumpstation chamber will include anti-flotation. This may be in the form of concrete collars at the base of the tanks. Calculations and proposed means of anti-flotation will be undertaken at detailed design.

In accordance with AS/NZS 1547, a reserve disposal field equal to 100% of the primary field area is typically required for septic systems. However, where advanced secondary treatment is provided, as this system has, Waikato Regional Council will accept a reduced reserve area. Based on industry practice and Innoflow's recommendation a 50% reserve area is considered appropriate for the proposed AdvanTex system. A reserve area sized at 50% has therefore been included, and the disposal field easement has been widened to accommodate both the primary and reserve fields. See Innoflow plan 7760-03 within the supporting drawings.

See updated Maven Wastewater engineering plans and updated Innoflow design plans and report for further information regarding the proposed wastewater treatment plant, pump station and disposal field design.

Maven have worked closely with Innoflow to provide further design details for the on-site wastewater design. This response is to be read in conjunction with updated Maven and Innoflow Engineering plans.

6. General Response Water Supply

- a. The evidence relating to water supply has been reviewed and agreed. The required upgrades as consulted with Maven and MPDC will be identified within the draft PDA and agreed upon shortly. No further comment is required at this stage.

Appendices

APPENDIX A – UPDATED ENGINEERING PLANS (BOUND SEPARATELY)

APPENDIX B – ENGINEERING SW RETICULATION CALCULATIONS

MAVEN

MAVEN WAI KATO LTD

Job Number

289001

Sheet

1

Rev

A

Title

Calc Title: SW Pipe Capacity

Author

MKS

Date

13/11/2025

Checked

DJM

Rainfall Depth

ARI 10YR

Historical Rainfall Data

89

mm/hr

RCP 8.5 Climate Change 2100 (10yr)

133

mm/hr

C Number

Lots (pre)

0.3

Roads

0.75

Pipe ks factor =


1.5 mm (pipes up to 1.0m dia)

0.6 mm (pipes over 1.0m dia)

0.06 mm (uPVC pipes)

Discharge Point:

| From number | To number | Catchment letter | Catchment Area m2 | C | Peak Flow rate - 10YR ARI l/s | Cum. Flow l/s | Pipe dia m | Gradient % | Capacity l/s | Percent Capacity % | Remaining l/s | Velocity m/s | Check OK |
|-------------|-----------|------------------|-------------------|------|-------------------------------|---------------|------------|------------|--------------|--------------------|---------------|--------------|----------|
| SW PUBLIC | | | | | | | | | | | | | |
| SWMH C4 | SWMH C3 | C1 + C2 | 7479 | 0.3 | 55.47 | 55.47 | 0.300 | 0.40 | 91.6 | 68.8% | 28.6 | 1.3 | OK |
| | | C3 | 273 | 0.75 | 7.55 | 63.02 | | | | | | | |
| SWMH C3 | SWMH C2 | C5 | 1601 | 0.3 | 11.87 | 74.89 | 0.300 | 0.40 | 91.6 | 81.7% | 16.7 | 1.3 | OK |
| | | C4 | 1938 | 0.75 | 53.69 | 128.58 | | | | | | | |
| SWMH C2 | SWMH C1 | C6 | 1185 | 0.3 | 13.13 | 141.72 | 0.375 | 0.41 | 166.0 | 85.4% | 24.2 | 1.5 | OK |
| | | C7 | 305 | 0.75 | 8.45 | 150.17 | | | | | | | |
| SWMH C5 | SWMH C1 | C10 + C11 | 2451 | 0.3 | 18.18 | 18.18 | 0.225 | 0.50 | 48.4 | 50.5% | 24.0 | 1.2 | OK |
| | | C12 | 338 | 0.75 | 6.27 | 24.45 | | | | | | | |
| SWMH C1 | SW OUTLET | C8 + C9 | 2503.42 | 0.75 | 69.37 | 243.98 | 0.450 | 1.21 | 316.5 | 77.1% | 72.5 | 2.0 | OK |



MAVEN WAI KATO LTD

Job Number

289001

Sheet

2

Rev

A

Title

Calc Title: SW Pipe Capacity

Author

MKS

Date

13/11/2025

Checked

DJM

Rainfall Depth

ARI 10YR

Historical Rainfall Data

89

RCP 8.5 Climate Change 2100 (10yr)

133

mm/hr

mm/hr

C Number

Lots (pre)

0.30

Roads

0.75

Pipe ks factor =

1.5 mm (pipes up to 1.0m dia)

0.6 mm (pipes over 1.0m dia)

0.06 mm (uPVC pipes)

Discharge Point:

| From number | To number | Catchment letter | Catchment Area m2 | C | Peak Flow rate - 10YR ARI l/s | Cum. Flow l/s | Pipe dia m | Gradient % | Capacity l/s | Percent Capacity % | Remaining l/s | Velocity m/s | Check OK |
|-------------|-----------|------------------|-------------------|------|-------------------------------|---------------|------------|------------|--------------|--------------------|---------------|--------------|----------|
| SW PUBLIC | | | | | | | | | | | | | |
| SWMH D7 | SWMH D6 | D1 + D2 | 1944 | 0.3 | 14.42 | 14.42 | 0.375 | 0.56 | 194.2 | 11.9% | 171.0 | 1.8 | OK |
| | | D3 | 317 | 0.75 | 8.78 | 23.20 | | | | | | | |
| SWMH D6 | SWMH D5 | D5 + D6 | 2130 | 0.3 | 15.80 | 39.00 | 0.375 | 0.56 | 194.2 | 20.1% | 155.2 | 1.8 | OK |
| | | D4 | 838 | 0.75 | 23.23 | 62.23 | | | | | | | |
| SWMH D5 | SWMH D4 | D7 + D8 | 1542 | 0.3 | 17.08 | 79.32 | 0.450 | 0.40 | 181.9 | 43.6% | 102.6 | 1.1 | OK |
| | | D9 | 868 | 0.75 | 24.06 | 103.38 | | | | | | | |
| RE1 | SWMH D8 | D11 | 782 | 0.3 | 5.15 | 5.15 | 0.225 | 0.40 | 43.3 | 11.9% | 38.1 | 1.1 | OK |
| | | | | | | 15.64 | | | | | | | |
| SWMH D8 | SWMH D4 | D12 | 1595 | 0.3 | 10.49 | 15.64 | 0.225 | 0.40 | 43.3 | 36.2% | 27.6 | 1.1 | OK |
| | | | | | | 15.64 | | | | | | | |
| SWMH D4 | SWMH D3 | D10 | 553 | 0.3 | 6.13 | 125.15 | 0.450 | 0.40 | 181.9 | 68.8% | 56.8 | 1.1 | OK |
| | | D13 | 293 | 0.75 | 8.12 | 133.26 | | | | | | | |
| SWMH D3 | SWMH D2 | D14 | 840 | 0.3 | 8.26 | 141.52 | 0.450 | 0.40 | 181.9 | 77.8% | 40.4 | 1.1 | OK |
| | | D15 | 585 | 0.75 | 16.22 | 157.74 | | | | | | | |
| RE2 | SWMH D2 | D17 | 971 | 0.3 | 9.54 | 9.54 | 0.225 | 0.50 | 48.4 | 19.7% | 38.9 | 1.2 | OK |
| | | | | | | 9.54 | | | | | | | |
| SWMH D2 | SWMH D1 | D16 | 840 | 0.3 | 8.26 | 175.54 | 0.450 | 0.60 | 222.8 | 78.8% | 47.3 | 1.4 | OK |
| | | D18 | 445 | 0.75 | 12.32 | 187.86 | | | | | | | |
| RE3 | SWMH D10 | D20 | 2083 | 0.3 | 20.47 | 20.47 | 0.225 | 0.50 | 48.4 | 42.3% | 27.9 | 1.2 | OK |
| | | | | | | 20.47 | | | | | | | |
| SWMH D10 | SWMH D9 | D19 + D21 | 973 | 0.3 | 9.56 | 30.04 | 0.225 | 0.50 | 48.4 | 62.0% | 18.4 | 1.2 | OK |
| | | D22 | 986 | 0.75 | 27.33 | 57.36 | | | | | | | |
| SWMH D9 | SWMH D1 | D23 | 414 | 0.3 | 4.07 | 61.43 | 0.300 | 0.40 | 91.6 | 67.0% | 30.2 | 1.3 | OK |
| | | D24 | 235 | 0.75 | 6.51 | 67.94 | | | | | | | |
| SWMH D1 | SW OUTLET | D25 | 325.68 | 0.75 | 9.02 | 264.83 | 0.525 | 0.50 | 305.6 | 86.7% | 40.8 | 1.4 | OK |



| From number | To number | Catchment letter | Catchment Area m2 | C | Peak Flow rate - 10YR ARI l/s | Cum. Flow l/s | Pipe dia m | Gradient % | Capacity l/s | Percent Capacity % | Remaining l/s | Velocity m/s | Check OK |
|----------------|--------------|---------------------|----------------------|------|----------------------------------|------------------|---------------|---------------|-----------------|-----------------------|------------------|-----------------|-------------|
| SW PUBLIC | | | | | | | | | | | | | |
| SWMH D14 | SWMH D13 | D26 | 1505 | 0.3 | 9.90 | 9.90 | | | | | | | |
| | | D27 | 740 | 0.75 | 20.51 | 30.41 | 0.225 | 0.60 | 53.1 | 57.3% | 22.7 | 1.3 | OK |
| SWMH D13 | SWMH D11 | | | | | | | | | | | | |
| | | D28 | 2094 | 0.75 | 58.01 | 88.42 | 0.300 | 0.51 | 103.6 | 85.4% | 15.2 | 1.5 | OK |
| SWMH D12 | SWMH D11 | D30 | 1618 | 0.3 | 10.64 | 10.64 | | | | | | | |
| | | | | | | 10.64 | 0.225 | 0.50 | 48.4 | 22.0% | 37.8 | 1.2 | OK |
| SWMH D11 | SW OUTLET | D31 | 595.239 | 0.3 | 5.85 | 104.91 | | | | | | | |
| | | D29 + D32 | 3288.5 | 0.75 | 91.12 | 196.03 | 0.375 | 0.75 | 225.0 | 87.1% | 28.9 | 2.0 | OK |

APPENDIX C – WGA TECHNICAL MEMORANDUM AND RESPONSE LETTER (BOUND SEPARATELY)

APPENDIX D – CMW UPDATED GEOTECHNICAL REPORT AND RESPONSE LETTER (BOUND SEPARATELY)