



Civil Assessment Report

JOB NUMBER: 23-1883

Waikato Thoroughbred Racing Greenfield Hub

PROJECT

Waikato Thoroughbred Racing

CLIENT

**Master Planning – Rev 6
16 April 2026**



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23-1883

**Waikato Thoroughbred Racing
New Racecourse**

Pencarrow Road, Waikato



Prepared for: Waikato Thoroughbred Racing

Project no: 23-1883

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1 INTRODUCTION

Waikato Thoroughbred Racing (WTR) is master planning for a new thoroughbred racecourse at Pencarrow Road, Tamahere. BCD Group Limited (BCD) has been requested to provide Civil engineering services for the project. This report presents a summary of our assessments and recommendations for WTR.

The subject site is a collection of titles, the legal descriptions and usage follow:

- 636 Pencarrow Road, Tamahere, Hamilton (1)
 - Section 49 SO 457609 – approximately 37.6439 ha
- 592 Pencarrow Road, Tamahere, Hamilton (2)
 - Lot 1 DP 471383 – approximately 23.8694 ha
- 536 Pencarrow Road, Tamahere, Hamilton (3)
 - Lot 2 DP 471383 – approximately 18.5194 ha
- 37 Hooker Road and 38 Duncan Road, Tamahere, Hamilton (4)
 - Section 2 SO 547526 – approximately 69.6678 ha
- 90 Duncan Road, Tamahere, Hamilton (5)
 - Lot 2 DP 16925 – approximately 14.212 ha
- 644 Pencarrow Road, Tamahere, Hamilton (6) – if required.
 - Section 46 SO 547609 – approximately 1.355 ha



Figure 1: Aerial view of site and surrounding area.

The site is within the jurisdictions of Waikato Regional Council (WRC) and Waikato District Council (WDC).

This report is to be read in conjunction with BCD Group Civil Drawings for the site.

2 PROJECT DESCRIPTION

The purpose of the Project is to create a unique, world class greenfield racing hub designed for horse training, racing and other equine related activities, while bringing the expertise and strength of the local racing fraternity together in a centralised location.

This enables the local racing industry to be more streamlined, competitive, sustainable and future focused while bringing potential international investment and creating a 'destination' for horse racing in New Zealand, also increasing tourism opportunities for the wider region.

A key driver behind the proposed greenfield equine hub and racecourses is enabling the consolidation of four separate racecourse facilities (Te Rapa, Waipa and Cambridge thoroughbred courses, and the Cambridge harness track).

These facilities duplicate assets and resources and, given their current condition require significant levels of upgrades and investment to provide fit-for-purpose facilities that meet the higher standards of the modern-day racecourse experience. The retirement of these areas also frees up significant tracts of land within existing urban areas for future development, increasing housing supply.

To support the development's financial viability and enhance the site's long-term vibrancy as a racing, entertainment, commercial and community precinct, the proposal includes a range of complementary activities on the remaining land. These include equine support services, rural residential housing, a retirement living community, a village centre and a bloodstock sales precinct.

The draft master plans are included in Appendix A which shows the development area for the project and proposed locations for the horse racetracks (Main Track, Back Track, and Harness Track), training track, trainer' allotments – on-site stables and yards, race day and industry functions and events, village centre and commercial equine support services, comprehensive retirement living, and lifestyle residential sections.

The Masterplan has proposed stormwater detention ponds for the Main Track, Harness Track, and south entrance (the latter being a wetland). An additional pond has been proposed for the northern corner (near the Back Track). The proposed cut and fill depths and volumes associated with the development of the site are unknown at this stage.

A very rough approximation puts the cut and fill volumes (to achieve the proposed change in levels) at 370,000 m³ and 300,000 m³ respectively, with a max cut depth of 4 m and a max fill depth of 3 m. Additionally, a 300,000 m³ cut may be required for the removal of topsoil and 40,000 m³ fill for the infill of drains. However, these values will likely change significantly.

3 SITE DESCRIPTION

The site is located in the Tamahere area, approximately 7km southeast of the urban boundary of Hamilton City and 5km northwest of Cambridge.

The site is zoned rural and is primarily used as a dairy farm. Several farm buildings are present across the site. Vegetation cover across the property is predominantly pasture with medium sized trees scattered predominantly across the southern half of the site. The vegetation includes a patch of existing Kahikatea trees that the proposed development will maintain. Farm tracks generally following the boundaries of the properties and points between buildings. Farm drains are scattered throughout the properties.

The site has several existing access locations from Pencarrow Road, Hooker Road and Duncan Road. The site appears to be relatively level to very gently rolling. However, there is approximately four metres of fall from south-east to north-west. The toe of a rolling hill typical of the Waikato basin is present adjacent to Pencarrow Road.

Based on LiDAR from LINZ the elevation of the existing ground surface at the site varies from approximately RL 53m to 57m across the general site and RL 54.5m to 59m along the Pencarrow Road corridor boundary.

¹ Reduced Level to New Zealand Vertical Datum 2016 (NZVD2016)

² System Equine – How much water does a horse drink per day? Complete 2026 Guide with Charts & Calculators
<https://systemequine.com/how-much-water-does-a-horse-drink-per-day/>

The site does not have connections to council reticulation for wastewater and stormwater and is likely managed locally within the properties via soak holes, septic tanks and wastewater soakage fields. There are a number of existing stormwater swales surround the site.

4 NATURAL HAZARDS

BCD has checked the Waikato DC Council GIS system and the Waikato Regional Council Hazard Maps, and no natural hazards are mapped that would affect the proposed development.

BCD has completed a specific flood assessment for the site, which identified localised flooding in areas of the site. This will be addressed and mitigated through the design process. These measures will include local drainage swales, swales designed for large flood events, attenuation ponds, contouring the surface towards these swales, and sumps at low points.

The proposed flood mitigation measures are designed to the 1% AEP storm event. Larger events are considered unlikely under the National Policy Statement for Natural Hazards 2025. Events larger than 1% AEP could result in limited loss of use and/or repairs being required, resulting in moderate consequences. This would put the mitigated flooding as a moderate risk.

Figure 1: Risk matrix

		Likelihood Level						
		Almost Certain	Very Likely	Likely	Possible	Unlikely	Rare	Very Rare
ARI (years)		up to 10	10-20	20-50	50-100	100-500	500-5000	> 5000
AEP		10% or more	10% to 5%	5% to 2%	2% to 1%	1% to 0.2%	0.2% to 0.02%	< 0.02%
Consequence Level	Catastrophic	Very High	Very High	Very High	High	Medium	Medium	Medium
	Major	Very High	Very High	High	High	Medium	Medium	Medium
	Moderate	High	High	High	Medium	Medium	Low	Low
	Minor	Medium	Medium	Medium	Medium	Low	Low	Low
	Negligible	Low	Low	Low	Low	Low	Low	Low

The design will endeavour to prevent moderate consequences during events up to a 0.2% AEP, resulting in a low risk. However, the goal will be mitigation up to the 1% AEP. Noting we intend on storing water for reuse onsite.

5 THREE WATERS INFRASTRUCTURE

The below is based on the following:

- We understand peak visitor numbers to be 5,000 persons (for the race days) at 20 litres per person per day equates to **100m³ per day**.
- We also understand that race day will involve a peak of 400 racehorses. A thoroughbred racehorse requires an average of 45 litres² per day during summer racing, which equates to **18m³ per day**.
- The proposed development includes multiple land usages. A population equivalent for each area was applied in accordance with RITS (Table 91: Population Equivalent), allowing for a demand.
 - o Thoroughbred Racing and Harness Facility: 71.5 Ha
 - See irrigation volume below and visitors above
 - o Trainers' allotment – on-site stables and yards: 16.4 Ha
 - See horse numbers above
 - 45 persons per hectare
 - Total persons – 738 persons
 - 40 litres per person per day
 - Total = **30m³ per day**

- Village Centre and Commercial equine support services: 25.1 Ha
 - 45 persons per hectare
 - Total persons – 1,130 persons
 - 40 litres per person per day
 - Total = **45m³ per day**
- Comprehensive Retirement Living: 9.0 Ha
 - 70 persons per hectare
 - Total persons – 630 persons
 - 260 litres per person per day
 - Total = **164m³ per day**
- Lifestyle Residential Sections: 13.3 Ha
 - 45 persons per hectare
 - Total persons – 1,920 persons
 - 260 litres per person per day
 - Total = **155m³ per day** (as the Lifestyle subdivision are to be self-reliant, this demand is excluded from the current design)
- Irrigation volume required to be 85,000m³ annually equating to **233m³ per day**.
- Baseline storage pond requirement of 35,000m³ (based on our understanding of the Ellerslie Racecourse)

5.1 Potable Water Supply

5.1.1 Bore Water Supply

Below is an outline of work completed to date regarding suitability of Bore Water Supply for the Development.

1. Initial Engagement

BCD Group have engaged with Waikato Regional Council regarding Bore Water Supply; the following is a brief summary of this work:

- Waikato Regional Council - *"Bores at this location are within the "Hamilton Basin – South" aquifer as per Table 3-6 Waikato Regional Plan. There is currently allocation available within the Management Level for the aquifer. There is also allocation available within the hydrologically connected relevant surface water catchment "Waikato River at landward boundary of the coastal marine area" within primary allocable flow."*
- Meeting with WRC on 12/12/2025 discussing bore permit, water take and the project. WRC confirmed general agreeance with the philosophy, noting the aquifer has adequate allocation for the sites planned water take (up to 500m³ per day).
- BCD have confirmed desire for 500m³ per day in water take with WRC, Brown Bros Drilling, and WGA who have all confirmed this is possible, subject to testing.
- Bore water consent approved by WRC on 16th December 2025.

2. Specialist Engagement

BCD Group have engaged the services of Brown Bros Drilling & WGA NZ (Hydrogeologist) to complete the test bore and hydrogeological assessment to support the application.

- This work provided the following information:
 - As the proposed target aquifer is deep (80 m), it is likely to have low nutrient and nitrate concentrations. Dissolved iron concentrations are a possibility (based on local aquifers); however, iron concentrations are not considered a health risk, and the removal is not complicated (aeration followed by filtration). Saline contamination of deep bores to the south of the site has been observed, and WGA recommends that any bore be located near the site's northern boundary. The water quality will be tested post drilling.
 - Waikato Thoroughbred Racing is seeking to draw up to 500 m³/day and 92,500 m³/year. WGA comments that the available groundwater allocation within the Hamilton Basin – South management zone is sufficient to support this production. Many of the nearby bores exceed this flow and consented flows is based on use.
 - Although drawdowns of 3 m are expected within a 1 km radius (2 m within 2 km), few neighbouring bores will be impacted as nearby bores draw from shallower aquifers

- Hydrogeological Reporting including assessment of effects including draw down radius of 1km minimum, water supply quality and quantity to support the referral application.

5.1.2 Other Means of Supply

- Roof water collection
 - o Using a conservative baseline of 24mm of rainfall per month (using data from Metservice, observation from Hamilton Airport (AWS-93173) – average rainfall across the driest three-month period in the last two years – Jan 2025 to March 2025)
 - o For every 1000m² of roof area, average roof run off volume is approximately 0.6m³ per day (20% reduction factor applied). Using the baseline plan provided, an estimate of 11,000m² of roof would generate an estimated **6m³ (per day) on average.**
- Other Surface Water collection
 - o Using a conservative baseline of 65mm of rainfall per month (using data from figure.nz).
 - o Using a baseline surface area with surface run off could be harvested from would generate an estimated **8m³ (per day) on average.**

5.1.3 Storage of Water

Storage of water onsite would be required to cater for the peaks expected for this use case (and firefighting water supply for that matter) and would mean draws from the above would not peak at such a rate daily, and significant peak flows could be managed this way.

- Above ground storage tanks i.e. 10 x 30,000 litre tanks (potable supply) & water storage pond (irrigation & firefighting water supply).
 - o The above ground potable water supply tanks will be located on the toe of the rolling hills near Pencarrow road, to take advantage of the elevation to provide pressure
 - o The water storage ponds will be located based on the Masterplan and requirements of stormwater detention. Presently, these are the southern entrance, the south end of the Harness Track and Main Tack, and the northern corner.
 - o No additional take is assigned to the bore for firefighting water supply, which will use the water storage ponds.

Surface water runoff from other hard surfaces could be treated and directed to a storage pond for irrigation to supplement water supply for irrigation use. Additionally, the onsite drain may hold water through winter which **could** be utilized.

We expect a pond to be more cost effective but could be used in addition to tank storage to provide water storage means onsite.

5.1.4 Supply of Water

Supply of water to the site will be through onsite pressurisation (booster pumps) and distributed to where required through pipe work.

Usage	Volume
We understand peak visitor numbers to be 5,000 persons at 20 litres per person per day	100 m ³ per day.
We also understand that race day will involve a peak of 400 racehorses. A thoroughbred racehorse requires 45 litres ² per day during the summer race	18 m ³ per day
Trainers' allotment – on-site stables and yards	30 m ³ per day
Village Centre and Commercial equine support services	45 m ³ per day
Comprehensive Retirement Living	168 m ³ per day.
Irrigation volume required to be 85,000m ³ annually	233 m ³ per day

Total Demand	589 m³ per day
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Supply	Manning's N
New Bore	500 m ³ per day.
Roof water collection	6 m ³ per day
Surface collection	8 m ³ per day
Total Demand	515 m³ per day

We note the peak draws for feature days push the daily draw over the expected take. We note water storage is proposed onsite to provide buffer. Additionally, the residential living is expected to be serviced by roof water supply and therefore the actual groundwater take is sufficient for the expected demand.

There is sufficient water resource in the locality to meet the envisaged demand. All potable water supply will be treated to meet NZ public water supply quality requirements and storage will be provided to buffer the peak feature days.

5.1.5 Potable Water Network

As the irrigation demand will draw from the irrigation/stormwater attenuation ponds, design for the potable water network (which will draw from the potable water tanks) did not consider the irrigation demand. This left a total daily demand of 356 m³/day that would draw from the potable water tanks. With a RITs peaking factor of 5, this means the network will have an average and peak demand of 4.1 l/s and 20.6 l/s respectively

The current design proposed running a 250mm main from the storage tanks to the road near the eastern boundary. A 100mm main and a 50mm rider main will then run north up the eastern road until it reaches the proposed northern road and down the eastern road until it reaches the proposed boulevard. At the boulevard, the main and rider main will run north through the grandstand area and connect back into the mains near the intersection of the eastern and northern roads, forming a loop.

The network will also have two branches, with both the 100 main and 50mm rider main branching to ensure that they can connect at the branches end and created a loop. One branch will run down the boulevard to the proposed Retirement village while the other will run along the northern road to service the barns. Both branches will have a booster pump station to provide additional pressure.

5.1.6 Conclusions

The total peak onsite demand is 589 m³ per day while the total onsite supply is 515 m³ per day. However, the site will include storage to buffer both daily flows and peak features days. A trickle-feed connection to the locality (which has sufficient resources to meet the envisaged demand) is considered a possibility to provide redundancy; however, this will require Council approval and is not necessary to meet demand.

Based on the analysis, there is sufficient water to meet the needs of the project,

5.2 Stormwater

5.2.1 Overview

Stormwater management on the site will be managed by the following:

- Surface water to be collected by downpipes and catchpits.

- Stormwater to be conveyed by largely by swales, with the occasional below ground pipe and manhole.
- Stormwater would require stormwater treatment which would be achieved using swales, raingardens and/or ponds/wetlands.

The site will harvest and store all rainwater that it can.

Dependant on subsurface conditions (soil types & groundwater), we expect stormwater flow management to be achieved by:

- Stormwater detention (pond, tanks)
 - o We estimate 48,000m³ of storage may be required (assuming to infiltration) but this quantity is subject to preliminary design.
- Stormwater infiltration/soakage systems, subject to the seasonal ground water levels being sufficiently low.
 - o Ponds, swales dependant on subsurface conditions.

BCD have completed hydraulic modelling to confirm flood risk. BCD will use swales to convey and store stormwater for both 10 yr & 100 yr events.

BCD have consulted with Waikato Regional Council who have confirmed requirement for drain surveys, catchment modelling including drain diversion modelling is required. Stormwater flow entering the site and leaving the site will largely be retained.

5.2.2 Swale and stormwater network

Full discussion on the stormwater flows across the site and the approximate sizing of stormwater flooding swales is covered in BCD – Preliminary Flood Model Assessment report. In summary, the proposed development is split into three catchment areas: North, Main, and West (the existing site has a small south catchment that is incorporated into the west catchment). The stormwater network is design to respect theses catchments and their existing points of discharge.

The swale system was also design to, in general, follow the roadways laid out in the Masterplan. Discussion on the roads is provided in Section 5.5; however, in summary.

- Each road section is assumed to have a least a 1.5 m wide stormwater reticulation swale for typical low level stormwater events
- Some sections of road are followed by a stormwater flooding swale (5-10 m wide) that is design for large (1% AEP) storm events, including directing the inflow from the upstream catchments. The intent being to limit flooding onsite while achieving hydraulic neutrality (by directing runoff to stormwater attenuation ponds).

The proposed stormwater system for each catchment is as follows

- Northern catchment
 - o A swale running along its northern and eastern boundaries, directing flood water to an attenuation pond at the site's northern corner
 - o The design will use an existing 400mm culvert connect to the SH1 swale system as a low flow outlet.
 - o The attenuation pond will also have an outlet to the SH1 swales
- Main Catchment
 - o Two swales running from the eastern boundary to the main track (the southern one will need to be piped for some sections to run under the proposed lifestyle blocks). At the main track, the swales will combine and run counterclockwise to the northern road, whereupon they will run along the northern road to the eastern road
 - o Both swales will have an inlet pipe to an attenuation pond located at the southern end of the Main Track. The pond will have an outlet to the swale running along the northern road.
 - o The design proposes having a major swale running northward along the eastern road, at the base of the rolling hills. This wale will pick up the swale on the northern road and will discharge to an existing culvert that runs below Pencarrow Road

- Western Catchment
 - o A major swale will run along Hooker Road, providing additional capacity for the drains already located along this road. The swale will drain first to a wetland (located at the southern entrance) and then to the site's western corner (which is an existing point of discharge).
 - o A swale will start near the site's southern corner (picking up flows from the upstream catchment) and run north along the Main Track's southern chute. A pipe will then direct this flow into the Hooker Road swale.
 - o A second swale will continue along the Main Track's southern chute. It will run around the preserved Kahikatea trees before connecting with the swales in the boulevard, near the intersection of the boulevard and eastern road
 - o The main boulevard will have two 3.5 m wide swales (that will double as both regular stormwater drainage and flooding swales).
 - o In addition to the wetland, the western catchment will have an attenuation pond located at the southern end of the Harness Racing Track. An inlet pipe will allow flow from the boulevard swale sections north of the east road intersection, and the main track swale.
 - o The boulevard swales will have a weir to allow overflow to the wetland should the attenuation pond be at capacity
 - o The attenuation pond will have an outlet to a series of swales located at the western boundary. This will drain to the Hooker Road swale.

5.2.3 Conclusions

Based on the above analysis and flood modelling report, stormwater both from this project and the upstream catchment can be adequately managed without creating any adverse effects either onsite or downstream in any of the catchments.

5.3 Wastewater

Sources of wastewater are expected to be the same as the land usages for water supply. Wastewater demands were calculated as per RITS. Under RITS, the average daily wastewater flow is assumed to be equivalent to the daily water consumption.

- Thoroughbred Racing Facility: 71.5 Ha
 - o Irrigation: no wastewater assumed
 - o Visitors: **100m³ per day**.
- Trainers' allotment – on-site stables and yards: 16.4 Ha
 - o Horses: **18m³ per day** (same as water supply)
 - o People = **30m³ per day**
 - o Washdown bays: TBD
- Village Centre and Commercial equine support services: 25.1 Ha
 - o People = **45m³ per day**
- Comprehensive Retirement Living: 9.0 Ha
 - o People = **164m³ per day**
- Lifestyle Residential Sections : 13.3 Ha
 - o People = **155m³ per day** (as the Lifestyle subdivision are to be self-reliant, this demand is excluded from the design)
- This gives a total wastewater demand of 356 m³/day, resulting in average and peak demands of 4.1 l/s and 27.6 l/s

At the time of writing this report, there is no Council reticulation within the general area of the site. On that basis, wastewater management on site would likely be managed by the following:

- On-site wastewater treatment & disposal to land
 - o Treatment requirements would be a minimum secondary and discharged to land via disposal beds. A system of this scale would likely be a proprietary device with a high level of treatment (tertiary) and a land discharge rate of 50mm/day with an estimated land area for disposal to be 8,000m² (the same area would be required for

reserve). The land area required for disposal is subject to occupancy, estimated usage and soil type.

- A system of this scale would need to consider groundwater, soil type and type of wastewater being treated.
- At minimum, the system would need to have compliant separation from any stream/drain.
- Dose loading with buffer tanks is a possible option and likely suggested given the high peak flows, and lower sustained flows.
 - Porta loos, temporary systems would also be utilised to cater for peak events.
- **Pumping is likely to be required, and there is sufficient space within the site for the establishment of a pump station.**

We would expect the following arrangement be utilised for the site

- Wastewater collected via a series of pipes (min 225mm pip at a min 1:300 gradient) that will flow to a pump station located near the grandstand area. These pipes will include:
 - o One main running along the northern road (servicing the stable area and northern commercial area)
 - o One main running along the boulevard and under the grandstand (servicing the retirement village and southern commercial area)
 - o One main running along the eastern road (servicing the southern commercial area)
- The pump station will have a depth of approximately 3 m and include 400,000 litres of emergency storage. Both the pump station and the storage will have anti flotation to account for groundwater.
- The stored wastewater would be pumped to a secondary (minimum) treatment system prior to discharging to land via dripper lines or soakage beds. This will be located in the Back Track. Stormwater collection from the Back Track (which drains into the northern attenuation pond) will be coordinate to ensure the northern pond is not contaminated
- Porta loos would also be used for significant events as required for overflow.

The system would be designed for a peak event but would be designed to dose load the land over a specific time period to account for the infrequent high peak flows. Wastewater of these volumes discharging to land would require early engagement with Regional Council and technical reports supporting the suitability of land to receive this volume relating to ground and groundwater.

5.3.1 Conclusions

Based on the above analysis, there is sufficient options to meet the project's needs. It is recommended that a specifically designed wastewater system be developed for this project with input from the council wastewater specialists.

5.4 Other

There is power and communications/data infrastructure available adjacent to the site that could likely meet the projects capacity requirements (some localised upgrading may be provided). Four on-site transformers are proposed; one located near each entrance and one near the race day operations building.

5.5 Roading and Pavement

Proposed internal roading will be designed in either alignment with RITS Urban Road Widths drawing (for council vested roadways inside the development), in rough alignment with RITS Urban Road Widths drawing (for private access roads within the site), or in alignment with RITS Rural Road Widths drawing (for the proposed upgrades to Duncan Road).

Five Roadway types are proposed as part of the development Refer to BCD Group Civil Drawings: *Sheet C-355 and C-356*.

- Private access road: with and without a footpath
 - o Differentiate by the inclusion or exclusion of a 1.8 m wide footpath

- 6 m wide carriageway (3 m wide lanes) plus two 0.5 m kerbs
- 1.5 m wide service lane either side
- A 0.5 m offset to the local stormwater drainage swale and, when required, a 0.5 m offset to the stormwater flooding swale
- 1.5 m wide stormwater drainage swale for standard low flow stormwater drainage
- When required, a stormwater flooding swale (size varying as required, up to a maximum of 10 m for private access with a footpath, and 7 m for private access without a footpath)
- Council Road – Access low volumes – Residential (as per RITS)
 - 6 m wide carriage way (3 m wide lanes) plus two 0.5 m kerbs
 - 1.5 m wide service lane either side
 - One 1.8 m footpath
 - 1.5 m wide stormwater drainage swale for standard low flow stormwater drainage
 - When required, a stormwater flooding swale (size varying as required, up to a maximum of 7 m)
- Private formal boulevard
 - 2 m wide central garden bed
 - Two 3.5 m wide carriageway lane (each with two 0.5 m kerbs)
 - Two 3.5 m wide swales (to serve both a general stormwater drainage and as flood management)
 - A 2.5 m wide foot and cycle path on the western side and a 1.5 m wide footpath on the eastern side.
 - 1.5 m wide service land either side
 - 2 m wide garden bed either side

5.6 Summary

Key summary notes in general terms for developing a greenfield site are as follows:

- Supply infrastructure including (but not limited to) water supply, wastewater reticulation, stormwater reticulation, power, data and gas (we understand reticulated gas is not available) would be beneficial in reducing risk relating to servicing capacity and requirements.
- Power and data would need to be made available and upgrades to existing networks possible.
- We expect water supply means to be provided from the various sources noted above.
- We note the treated wastewater volumes are based upon large capacity events. We think at this stage it would be prudent to discount this in principle but is available if needed subject to cost, planning and specialist inputs.
- Water supply, stormwater and wastewater 'can' be managed onsite. Using site collection, storage and reuse within the site as outlined in the above relevant sections. Based on our high-level assessment, and subject to further verification, it looks likely the site will be able to provide the 3 waters services requirements.
- Plan change, subdivision, regional and district council engagement and collaboration in addition to specific design-based site constraints.

Based on the above analysis, there are no infrastructure issues associated with the proposed development that cannot be mitigated through the implementation of mitigation measures or increasing capacity.

6 REPORT LIMITATIONS

This report has been prepared for our client for their purposes. It is not to be relied upon or used out of context by any other person without reference to BCD. The reliance by other parties on the information or opinions contained in this report shall, without prior review and agreement in writing, be at such parties' sole risk.

