



DEVELOPMENT
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**PROVIDENCE LIFESTYLE (WATTLE GROVE) PTY LTD
WATTLE GROVE LIFESTYLE VILLAGE – LOT 500 GAVOUR ROAD,
WATTLE GROVE
ENGINEERING SERVICES REPORT**

1. General:

The subject site is approximately 15.20 hectares in size and is located on the Northern side of Gavour Road and the southern side of Welshpool Road East. Existing access is off Gavour Road.

It is proposed to be developed into a lifestyle village consisting of around 190 lifestyle village homes plus a clubhouse.

The Crystal Brook severs the existing lot adjacent to Gavour Road. The existing access has a crossing of the brook.

This report covers existing and proposed services, plus proposals for earthworks, retaining walls, roads, drainage, groundwater, water supply, sewerage, power supply, gas, telecommunication as required for current urban development standards.

2. Executive Summary

The land the subject of this report is located between Gavour Road and Welshpool East Road in Wattle Grove. The access to the lot is approximately 300m from the intersection of Gavour Road and Crystal Brook Road. All required services to service the development are available, although significant extensions and upgrades of Water and sewer will be required to accommodate the development.

The development will have two access points, the north from Welshpool Road East and a secondary access from Gavour Road.

Gavour Road is a kerbed and asphalt road with piped drainage. It is in good condition. The road reserve accommodates overhead power, water and communications.

The location of the site is at the point where the sands change to form the typically gravelly soils of the escarpment soils. As a result, the western portion of the sites consists of sands S₁₂ and S₈, with the north eastern part of the site designated as Mgs₂, which is a gravelly silt.

Maximum groundwater levels are not recorded across the site, although the southern and eastern portions have the site have clay within 1-3m of the surface which does cause some perching over the winter months.

A 330kV overhead power line crosses the south western corner of the site and no development is allowed within the easement area. The area can be used for recreation

and planting is limited to lower heights to comply with the Western Power easement requirements.

The land can be connected to all services, either by extension and upgrading from existing infrastructure, or by provision of new infrastructure as set out below. Power, telephone and water services already pass along the site frontage on Gavour Road.

It is proposed that all road stormwater from the development up to and including the 1% AEP (1 in 100yr) event will be retained on site and disposed by soakage. Houses will discharge roof stormwater into an underground drainage system that will be installed within the roadways. This will hold the 1EY storm without outflow, then overflow into the street system to the soakage basin.

3. Site

The land currently has a single residence with stables and outbuildings. The land was used for agriculture for many years until the early 1980's when the house was constructed. The power lines that cross the site were constructed in the early 1970's. Following the house construction, the site was used primarily for residential purposes, although a private equestrian area was developed with stables and grassed area. This is still in place, although does not appear to be used.

The land falls from south to the north with the brook running across the contours such that the area south of the brook grades to the brook, but the area north of the brook drains towards Welshpool road, although there is no visual evidence of water flowing, presumably due to the deep sand abutting Welshpool Road.

The basic land form is sand overlying clay, changing to be more gravelly with less sand overlying on the eastern side of the site.

A geotechnical studies was undertaken across the site by Galt Geotechnics in November 2021.

The investigations indicated that the site did indeed have variable soil conditions with the northern part of the site consisting of sand to 3.0m depth with the balance of the site consisting of :

- Sand/Gravelly Sand/Sandy Gravel – 0.5m to 1.5m depth
- Gravelly Sand – 1.5m to 3.0m depth
- Sandy Clay- to maximum depth of 6.2m.

Access is currently from the existing Gavour Road and as part of the development this will be amended to be from Welshpool Road with a secondary access off Gavour Road.

4. Development Proposal

It is proposed to develop the land as a lifestyle village consisting of some 190 residential homes together with a clubhouse.

Access will be from Welshpool Road with secondary access off Gavour Road

The development will be provided with all normal services, with links to abutting developments for sewer, water, power, roads and comms services with all drainage to be

disposed via a soakage basin abutting Welshpool Road which will contain the 1% AEP storm without outflow.

The site is proposed to be serviced by a private wastewater pumping station (WWPS). The WWPS will be located abutting Welshpool Road. The pressure main will be constructed along Welshpool Road, along Lewis Road to a new discharge point on Hartfield Road. Gravity sewer of sufficient capacity is currently located at the intersection of Lincoln Road and Hartfield Road and will be extended to provide a connection point for the pressure main.

Aerial power lines are located on the opposite verge of Gavour Road, so following normal protocol, these will remain, with an underground supply to the site off that road.

The development will entail earthworks to shape the land to suit the final levels, which will more or less follow the natural fall of the land. The Crystal Brook will be maintained in its current condition with no earthworks proposed abutting or south of the creek other than to construct the secondary access. Imported fill will not be required as the existing sand cover is sufficient for the lifestyle village.

All residential lot storm runoff will be directed to the street drainage system which will infiltrate via soakage then drain to the basin abutting Welshpool Road for further infiltration. Subsoil drainage will be installed throughout the development to control perching of the surface water on the subsurface clay.

5. Earthworks & Retaining Walls

Earthworks will be required to be carried out over the site to shape the surface to suit the proposed development. Cuts and fills are likely to be minimal.

No retaining is likely to be required other than potentially on the western side of the site abutting the existing development, where some retaining to reconcile levels may be required.

No fill is required to provide clearance to the flood levels of the Crystal Brook which is understood to be contained within its banks through this area.

6. Roads

All new internal roads will be constructed to as 6.0m wide roads with flush kerbs to encourage a low speed environment that is a critical part of the lifestyle village ethos. Sufficient manoeuvring space will be provided throughout to allow access for refuse collection and emergency vehicles.

A road crossing will be necessary across the Crystal Brook to provide a fire access and maintenance access for the village.

The existing peripheral roads are 6.0m wide urban roadways in good condition.

7. Drainage

Drainage from the whole site will be directed to a large soakage basin abutting Welshpool Road.

Lot drainage be directed to the below ground infiltration in the street which will consist of soakwells and cells. The cell system will hold the 1EY storm for the houses areas

without overflow then beyond that will overflow to the street system which will convey the excess flow to the soakage basin. Due to the clay substrate being relatively close to the natural surface, subsoils are proposed to ensure the soakage system will not permanently hold water given the less pervious substrate. All trenches will be backfilled with permeable sand to ensure that all surface water will be conveyed to the subsoil systems.

All flows, including subsoils and surface water will be infiltrated as much as possible prior to flow to the main infiltration basin.

8. Groundwater

According to the 2004 Groundwater atlas the groundwater is at around 17mAHD which is some 30m below surface levels.

Given the depth of groundwater no monitoring has been undertaken across the area.

As part of the geotechnical investigation groundwater was encountered in only three holes of some 36 test locations. The groundwater was encountered in locations close to the existing house and were at 2.2m to 5.2m depths.

Based on anecdotal evidence and given that the majority of the area is irrigated for the equestrian use, there is little evidence of waterlogging of soils at the surface. Given that relatively impervious gravelly clay is located within 1.0m of the surface in some locations, it is proposed that an extensive subsurface network of subsoils drains will be established to ensure that the area will drain after rainfall events.

9. Power

Sufficient power supply exists in the area to supply the development. A high and low voltage aerial power line is located along the eastern verge of Gavour Road, which will provide the connection point for the proposed development.

A transformer and main switchboard will be installed off Gavour Road and power will be reticulated via a series of sub mains through the whole of the development. Internal reticulation will be installed to consumer mains standards as required.

10. Water Supply

An existing 100mm water main is located along Gavour Road. It is proposed that an 100mm meter and a fire service will be installed off this main to service the whole development.

The capacity of the existing main is insufficient to supply the development and as a result, the existing mains from Anderson Road to Judith Road along Lewis Road and Hartfield Road will need to be upgraded to either a DN150 or DN200 pipeline. In addition, the main between Judith Road and the site will also need to be upgraded to a DN150 pipeline.

11. Sewer

There is currently no sewer available in the Wattle Grove area. There is sewer with sufficient capacity in Hartfield Road in the adjoining suburb of Forrestfield. It is proposed that a private WWPS will be constructed as part of the development. A private

pressure main will be constructed from the site, along Welshpool Road and Lewis Road to Hartfield Road where a discharge arrangement will be constructed. A gravity sewer will be extended from the intersection of Lincoln Road and Hartfield Road where the private main will discharge.

12. Telephone & NBN

Telstra and NBN underground infrastructure services exist adjacent to the site along the frontage to the site on both Welshpool Road and Gavour Road. These are available to provide a connection to service this proposed development.

Typically in a development such as this an arrangement will be made with a communications provider to service the village to provide internet services and internal network for the site. As a result there is a main feed from the street and the balance of the internal pit, pipe and cable is in private ownership thereby permitting the internal control of the system.

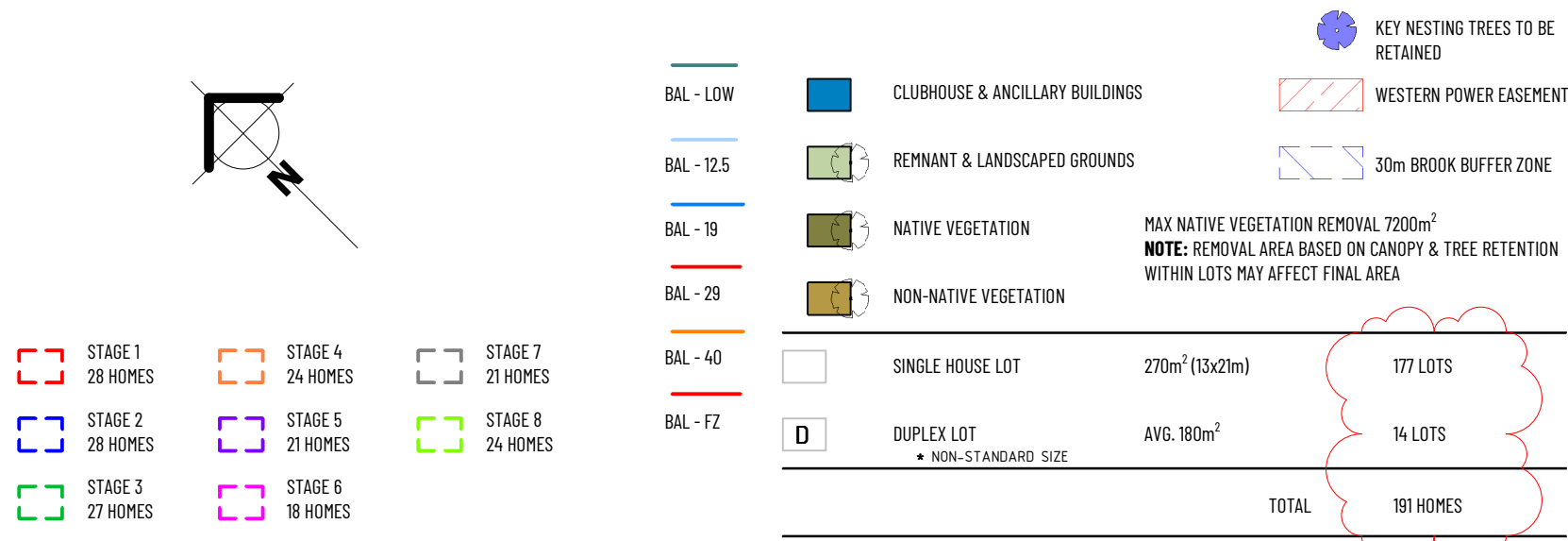
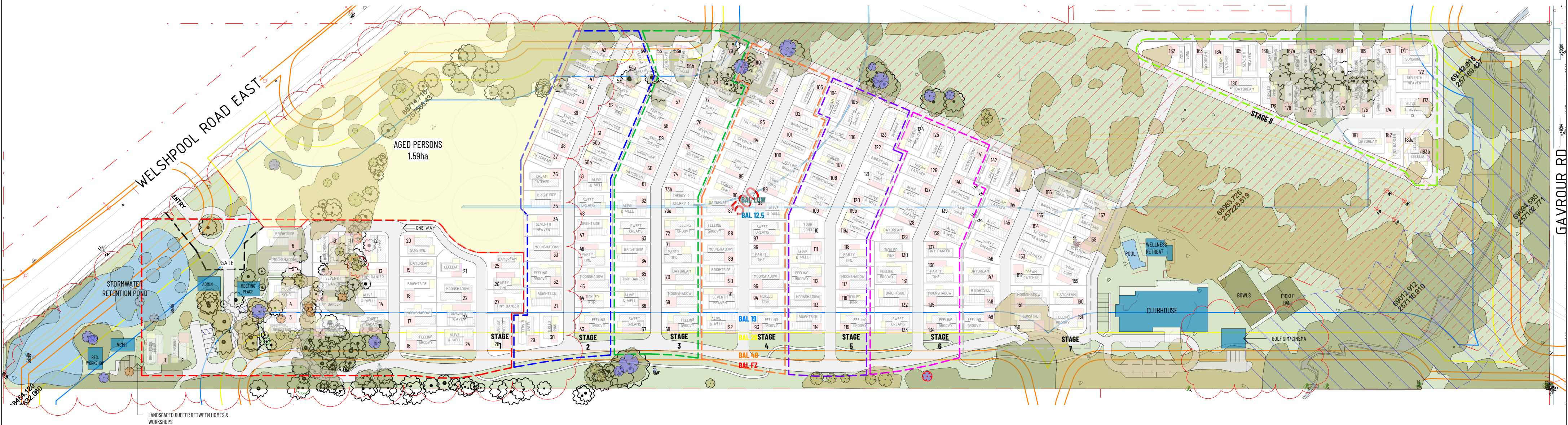
13. Gas

Gas mains are not available for this development and gas will not be installed.

DEVELOPMENT ENGINEERING CONSULTANTS PTY LTD

THIS REPORT IS DATED 24TH MARCH 2025.

ATTACHMENT 1 – PROPOSED MASTER PLAN



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No.	Description	Date
A	CONSULTANT ISSUE	04.11.2024
B	DRAFT UPDATED MASTERPLAN	18.11.2024
C	REVISED MASTERPLAN TO SUIT BAL & ACF	17.12.2024

PROVIDENCE LIFESTYLE

WATTLE GROVE LIFESTYLE RESORT

32 GAVOUR RD, WATTLE GROVE, 6107

Site Masterplan

Project number		A2.01
Date	17.12.2024	
Drawn by	RHA	
Checked by	RHA	
Scale	A2	As indicated