SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
DWER	1	Thank you for providing the development application for the proposed Groundwater Extraction and Storage at Lot 14 Nettleton Road, Karrakup for the Department of Water and Environmental Regulation (the Department) to consider. The Department has identified that the development proposal has the potential to impact on water resource values and/or management. While the Department does not object to the proposal key issues and recommendations are provided below, and these matters should be addressed. **Issue: Groundwater** **Advice** The subject property is located within the Karri Groundwater Area. This groundwater area is not proclaimed under the Rights in Water and Irrigation Act 1914, thereby any groundwater abstraction is not required to be licenced by the Department. The proponent should be made aware that the nature of the groundwater resource is highly variable, thus locating a viable source for substantial use may be difficult. **Issue: Native Vegetation** **Advice** Under section 51C of the Environmental Protection Act 1986 (EP Act), clearing of native vegetation is an offence unless undertaken under the authority of a clearing permit, or the clearing is subject to an exemption. Exemptions for clearing that are a requirement of written law, or authorised under certain statutory processes, are contained in Schedule 6 of the EP Act. Exemptions for low impact routine land management practices outside of environmentally sensitive areas (ESAs) are contained in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (the Clearing Regulations). Based on the information provided, it is not clear whether the proposal requires the clearing of native vegetation. If any clearing is proposed, please contact DWER's Native Vegetation Regulation section by email (admin.nvp@dwer.wa.gov.au) or by telephone (6364 7098).		Officers acknowledge DWER's comments, refer to the consultation section of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		Issue: Waste Management **Advice** Based on the information provided it is not clear whether the proposal will produce waste materials, specifically wastewater from the groundwater filtration process. If the filtration process is to produce wastewater the Department recommends that a condition of approval be that a Wastewater Management Plan for the proposed groundwater extraction and storage at the property be submitted by the applicant and approved by the Shire of Serpentine Jarrahdale. The Wastewater Management Plan should include, • Description of filtration process • Hours of operation • Volume of wastewater produced • Quality of wastewater • Method of disposal In the event there are modifications to the proposal that may have implications on aspects of environment and/or water management, the Department should be notified to enable the implications to be assessed.		
A398429	2	Will ground water levels remain unchanged on block 1173? My two dams have never dried up in the past. How many bores will be drilled? How many litres of ground water will be extracted each day? How will water extraction be monitored and policed? How will neighbouring properties dams be protected from drying up due to ground water extraction? How ill neighbouring properties bores be protected from drying up? Will trucks be going past 1173 block?		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		What times will the trucks be carting water? What pumps will be used and how much noise will pumps, generators, plant and equipment produce? Will plant and equipment be operating at night and will water tanks be coloured to blend into the environment or left bright and shiny? How many trucks per day will be carting? How many loads per day will be carted out? Will trucks be carting at weekends? Will trucks be carting on public holidays? What times will trucks be carting? How many days per week will water be extracted? How many hours per day will water be extracted? Where will bores, pumps, storage tanks, containers, concrete pad, loading pipes and all infrastructure be situated in relation to our house 1173 Nettleton Road? Where will trucks enter and exit the property? Will lighting be used and left on at night? How will the forest be protected from dying off from lack of ground water?		
A398302	3	I wish to object to the proposed Development Application 1201Nettleton Road Karrakup – Proposed Groundwater Extraction. I do not wish this to proceed in any shape or form.		Thank you for the submission. These matters have been addressed and considered in the consultation and

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		I have already felt / seen first hand the negative effects when the water ways are interfered with for the sake of financial gain by an individual. I am referring to the property next door to me who redirected the winter creek into their large dam. The area here in Nettleton Rd Karrakup is not abundant in water and any removal/diversion will have detrimental effects to the environment and the local usage that already exists. Once again, I say no to the development.		planning assessment sections of the report.
A399973	4	I am the owner of Lot 100, 29 Alcoa Road Karrakup, which is located downstream of the proposed water extraction development on Lot 687, 1202 Nettleton Road Karrakup. I strongly object to the proposed commercial water extraction and development on Lot 687, 1201 Nettleton Road Karrakup. The basis of my objection is as follows... 1. Climate change, longer and drier summers, and less rainfall in winter have already lowered the natural water table. As a result, the aquifers and ground water are not being replenished as quickly as it once was (I have lived and worked on the property for the last 73 years, my father having purchased and worked the property for agricultural purposes since 1940. So we are aware of the diminishing levels of water). The Gooralong Brook starts upstream of my property as a soak and the natural springs have not run on the surface near the source for the last 2S years. This is evidence that the ground water level has already diminished and fallen. The extraction of water from the water table by the proposed development on Lot 687 will only exacerbate the issue. 2. The bore on my property is our ONLY source of: - drinking water for human consumption. We are not connected to any township scheme water and are solely reliant upon bore water and ground water. - water for bathing and washing. - drinking water for stock (sheep, poultry, cattle, etc.). - irrigation water for crops, vegetables, and fruit for both personal and market sale.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The extraction of water on Lot 687 will deplete the natural water table and hence will impact my ability to continue to be self-sufficient and utilize our bore for the above current and any future uses. 3. Extracting water on Lot 687, will also reduce the ground moisture that is critical for green summer feed for stock; and as a result, I will need to purchase and transport hay and grain for my stock during summer. This is an added expense that I would otherwise not incur. 4. Water Quality may be affected by contamination caused by the extraction and vehicle traffic. As the underground water table is my families only source of fresh water for drinking, any contamination will adversely affect the health and well-being of my family and myself. 5. The proposed water extraction will also affect my ability to source water for fighting and extinguishing fires (bushfires, grass fires and house fires). As a result of climate change, droughts are becoming more frequent and hotter. This removes moisture from the ground, which causes grasses and trees to brown and dry becoming a fuel source for bushfires. The commercial extraction of water on Lot 687 will increase the risk and severity of fire. 6. The proposed water extraction and development is near the top of the valley (ground water source) and the extraction of water will impact all properties surrounding and downstream of the development. This will affect the sustainability of the agricultural industry in the valley and the economic benefits that they bring to the local economy (e.g. employment, wages, Shire rates, land taxes, and hence have secondary impacts upon the population, school enrolments, and sport/ recreation activities). Essentially, no water means no agriculture which means no local jobs and hence no reason to live in Jarrahdale. This is particularly significant as the WA government has recently stated that the logging of jarrah and timber milling must cease by 2024. Agriculture and tourism are the last remaining employment opportunities left in Jarrahdale, and both rely upon the use of water. 7. The proposed water extraction for use as bottled water is a frivolous waste of a precious resource for the financial gain of one landowner and is only supporting the		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		detrimental environmental impact made by the plastic that the water is put into for sale, when it is inevitably disposed after use. 8. Heavy vehicles used for transporting the water will travel on Nettleton Road. This road is narrow, winding and has a sloped gradient (downhill). It is a minor road that has not been designed for heavy traffic. The use of this country road will damage the integrity of the sealed road surface resulting in depressions and potholes. This will cause mechanical damage to other vehicles that use this road, as well as increase the risk of accidents and heavy vehicle roll-overs. 9. Fresh, uncontaminated water is a precious and increasingly scarce natural resource that is valued and used by all property owners; and must not be extracted for the monetary and financial gain of anyone landowner or commercial enterprise/ multinational company. I am strongly opposed to the proposed water extraction and development on Lot 687, 1201 Nettleton Road Karrakup, and believe that it is an irresponsible and unethical use of a natural resource that is used and shared by all property owners in the valley. The proposed water extraction development will adversely affect my property and family.		
A398427	5	100% strongly disapprove and object. 1 – No scheme water provided 2 – Bores run low in summer months 3 – Noise and traffic pollution 4 – Roads not suitable for trucks recommended 5 – Cost to replace water 6 – Compensation for property devaluation We the undersigned strongly and vehemently object to the proposed development application and the proposed Ground water Extraction on the above Lot 687, 1201 Nettleton Road Karrakup, on the following grounds.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		1) The impact of the proposed development applications has not been formally assessed to the immediate neighbours and the locality. 2) Land Occupiers in proximity depend on Groundwater for their livelihoods to service their farm ng enterprises and domestic use and any current such as the lowering of water table and increase in salinity of the groundwater may make it more difficult to keep the dams maintain their levels, more difficult to extract water or render it unsuitable for domestic use. 3) In summer the water table naturally lowers, with these proposed developments by the proponent may render the locality no longer suitable for rural enterprises. For all the factors mentioned we strongly and vehemently object to the proposed developments by the proponent on LOT 687,1201 Nettleton Road, Karrakup.		
A170600	6	I strongly object to the groundwater extraction proposal for Lot 687 Nettleton Road, Karrakup. We have limited groundwater as it is living in the hills. This would drain out the water table and affect our groundwater at 1151 Nettleton Road Karrakup. I strongly advice for this proposal to be declined.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
A406803	7	We are the owners of Lot 101, 28 Alcoa Road Karrakup. Our property is located downstream of the proposed water extraction development on Lot 687, 1201 Nettleton Road Karrakup. We strongly object to the proposed groundwater extraction as this will not just affect our water supply, but everybody's within the entire valley. We are currently in the process of building a new home on our property using only groundwater to do so as there is no scheme water available to our property. Our only water supply is from our dam which was originally used for market orchard irrigation many years ago. The original owner of this property informed us that this dam would always replenish itself with groundwater after pumping for several hours every night over the		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		summer months to irrigate the orchard. This dam always remained full of water all year round. Over the past 10 years this dam no longer remains full over the summer months and is appearing to become lower every year. This tells us the groundwater is already beginning to dry up and by commercially pumping from upstream for no other reason but financial profit will only make this matter considerably worse. Our new home will have a rainwater tank installed. Although being considerably larger than shire specifications this will still not be sufficient to get us through the summer months. This means our dam will be our only source of water which we will rely on for drinking, water for livestock, irrigation and most importantly for firefighting. No (or very little) water for firefighting to the entire valley could result in catastrophic outcomes. We are also concerned about the amount of water proposed development plans to extract and who will supervise and regulate the licenced amount being extracted. Another major concern is the heavy haulage which will be coming and going from the proposed property on Nettleton Road. This road is known as the "scenic" route to Jarrahdale. It is used daily by holiday makers/ travellers, people taking day trips, large amounts motor cycles and cyclist and parents taking children to and from school as there is no public transport. By adding trucks which will be regularly coming and going from the proposed property on a road that is already narrow and winding, extremely hilly, has no overtaking lanes or street lights and has many kangaroos and other wildlife will only increase the hazards of which is already a dangerous road. Extra trucks regularly on this road will be a major safety issue for all travellers concerned resulting in more road accidents and possibly even fatalities. In conclusion we strongly oppose the proposed water extraction and development on Lot 687, 1201 Nettleton Road Karrakup. We feel this proposal will greatly impact our family and surrounding property owners for the foreseeable future.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
A398432	8	1149 Nettleton Road Karrakup has been owned and operated by the Paulik Family for 65 years. For all these 65 years, the property has relied on superficial water and underground water for its agricultural business. There is No scheme water in this area Only dam water. Every year for the passed 40 years, our dam dries up January, February, March and to mid April until first heavy rainfalls. The lots were the Groundwater extraction Lot 13 & 14 Nettleton Road Karrakup is situated lower than 1149 Nettleton Road this extraction will have devasting effect on our water table!!! This area is getting less rainfall so underground water is particularly scarce at present and other properties, including ours will suffer considerably. Our agricultural business is not allowing us to expand due to lack of water. Nettleton Road cannot sustain heavy truck movements being 15.5m or 19m pocket 8-Double water tankers without road upgrades. Also, in this farming area the noise of the tankers will upset livestock and bird life. We are not sure if there will be water tankers working thru out the night and 7 days a week? We the undersigned strongly and vehemently object to the proposed development application and the proposed Ground water Extraction on the above Lot 687, 1201 Nettleton Road Karrakup, on the following grounds. 1) The impact of the proposed development applications has not been formally assessed to the immediate neighbours and the locality. 2) Land Occupiers in proximity depend on Groundwater for their livelihoods to service their farming enterprises and domestic use and any current such as the lowering of water table and increase in salinity of the groundwater may make it more difficult to		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		keep the dams maintain their levels, more difficult to extract water or render it unsuitable for domestic use. 3) In summer the water table naturally lowers, with these proposed developments by the proponent may render the locality no longer suitable for rural enterprises. For all the factors mentioned we strongly and vehemently object to the proposed developments by the proponent on LOT 687, 1201 Nettleton Road, Karrakup.		
A143750	9	I am writing on behalf of my mother-in-law who is now the sole owner of 163 Johnson Road Jarrahdale following the passing of my father-in-law. She did not get notification of the Submission put forward to extract ground water from Lots 13 and 14 on Nettleton Road in Karrakup because the property does not fall in the one kilometre radius of the proposed facility. However, because the property is in the same gully as the proposed site, we believe that properties down the gully will be affected. The proposal is to extract 50 000 000 litres of water from existing bores that are, according to the proposal, already producing 60 000 000 litres for the operating orchard on the lots. The proposal states that in return for the upkeep of the surrounds of the facility, the current owner will lease the two lots and continue to operate the orchard. The water being extracted will increase to 110 000 000 litres, 50 000 000 litres for the new facility and 60 000 000 litres for the orchard. The proposal does not contain; • Evidence through studies or monitoring to confirm the ground water reservoir will not be affected by drawing the additional volume continually over a period of time. • How they will monitor the affect to the ground water during this period of time? • Will monitoring bores be installed? Who by? Who will be collecting and monitoring the data? • Will there be a cut off point if or when ground water is affected? • Who is accountable if or when, bores down the gully cannot produce the volumes they are producing, or will this be just put down to climate change? For many years the owner of this property paid a lease fee to the Water Corporation for the use of a spring to service the property. However due to the changing environment this		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		has been unreliable, and a bore has been installed. The spring does not provide or produce water all year round anymore. The proposal also states the ground water will be replenished by the average rainfall in the region which is approximately 1000 mm per annum. Federation University Professor Peter Dahlaus who's research spans Hydrogeology and hydroinformatics, has studied the affects of ground water extraction and says it takes decades for groundwater to recharge as it makes its way through the earth to reach underground aquifers. If this is the case are we certain the bores surrounding the facility will not be immediately or long term affected. Prior to my retirement I was a Health and Safety Consultant and conducted and reviewed many risk assessments. I believe the traffic impact statement does not take everything into consideration. The impact statement states there will be eight movements a day on Nettleton road every day, all year round. The report needs to consider; • The increase in traffic at certain times of the year and weekends. • The number of kangaroos, emus and other native fauna that cross Nettleton road. • Being at the minimum required width and a popular route for cyclists. • Being a popular route for motorcycle clubs. • The new sub-division, corner of South West Highway and Nettleton Road, and the increase in traffic in and out of this sub-division. • The decline down the hill into a built up area, work has been done on other roads in the event of brake failure or if the driver misses a gear. We believe that more work needs to be done to guarantee other property owners, that have bores, will not be affected and that all precautions have been taken to ensure the safety of all road users. As we were informed of this proposal from a fellow neighbour, who received notification, we believe the Shire should consider notifying all properties along the gully, down from the proposed facility as these have the potential to be affected.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
A398428	10	Thank you for your letter giving me the opportunity to respond to the above proposal. I find that some of the facts mentioned in the hydrogeological report cause some concern. 1. The testing of the water extraction from the bores was not carried out under Australian Standards. 2. There was an inference in the report that the orchard industry and planting of fruit trees or other related agricultural ventures is on the decline in the Karrakup valley. It cannot be assumed that this is the case or what other neighbours may decide to do with their land in the future. 3. Commercial orchardists have a chemical spraying programme which is mandatory when wholesaling to retailers i.e. Supermarkets. These chemicals and nitrates will most probably have seeped down into the groundwater over the years. 4. From the geological description of the catchment of the water from rainfall and underground storage in the rock fissures it appears likely that there is no certainty of an infinite supply of water. Judging by the number of bores that have been drilled in the area described on the plan this may have happened previously. 5. Water reservoirs in this area are a precious commodity and have traditionally been used to produce fruit, vegetables and support other agricultural /rural ventures. 6. On my property one of my water tanks is marked as a source of water for the Fire team in case there is a local bushfire as there are no other water sources in the forest areas. 7. The report mentions that the rainfall averages have dropped in the past few years and this is likely to continue until carbon emissions in Australia are addressed. 8. Frequent truck traffic to the proposed site would mean an upgrade to the sub road and junction onto Nettleton Road. **Summary**		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		I am totally opposed to this commercial proposal as it could form a precedent for others to follow which could change the nature and ambience of this agricultural area. We ask that the proposed installation of bore water systems for the purpose of reselling be rejected. Depleting the water table to this extent will have knock on effects and may impact our future ability to pump water from the ground. Water here is a scarce resource and is important for survival during summer, it's not a resource that people should profit from 1n this way. The water here is very pure and not fit for human consumption. Drinking pure water this way is not recommended by the world health organisation, it can make a person very sick through a process known as dilutional hyponatremia.		
A170900	11	Due to the proposed extraction of water upstream of our property, we would object to significant quantities of water being extracted for uses other than agricultural cultivation as that would impact on ourselves.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
A140600	12	I object to the proposal for groundwater extraction on Lots 13 and 14 on Deposited Plan 434312, Karrakup **My comments are attached.** My concerns relate to the export of water from the Gooralong Brook catchment, at a time when the development of the Jarrahdale townsite (which lies within the Gooralong Brook catchment), is restricted by inadequate water supply. The extractable water resources of the catchment should be used for local development, and exporting water for luxury consumption from a community that is short of water is unacceptable. The hydrogeology report on the proposal also has a number of weaknesses, which make it very difficult to predict the result of exporting SOML of water.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		I also have concerns about the proposed opening of Nettleton Road and Jarrahdale Road for use by RAVs, either by reclassifying the roads or by granting of Ministerial permits to transport operators. Thank you for the opportunity to make a submission.		
A171501	13	**1. Summary of proposal** • This is a proposal by Karrakup Springs Ptd ltd, (a company with a registered office in Camberwell, Victoria - see ASIC company extract attached), to extract water from lots 13 and 14 Nettleton Road, Karrakup, WA (currently owned by Laytome Pty ltd with a registered office in Byford, WA). lots 13 and 14 currently form part of Cooralong Orchard. lots 13 and 14 are where the pumps and bores are situated that are used to water the orchard in summer. • Karrakup Springs Pty ltd is part of a group of related companies that are fully owned by a parent company called Black Mount Holdings pty ltd (see company extracts for Black Mount Holdings pty ltd and Black Mount Investments Pty ltd attached). The Black Mount Holdings Group is in the business of acquiring sources of spring mineral water, and then processing and selling the water. Another company in the group, Black Mount Pty Ltd, is the business arm of the group selling spring mineral water under the business names Black Mount Natural Springwater or Black Mount Spring Water. The water is sourced from at least 11 locations around Australia including at least one in Perth. It is sold bottled in Australia or shipped overseas in large bladders ready for bottling on arrival. (See Black Mount Spring Water website). • According to the application before the Shire, Karrakup Springs Pty ltd is in the process of buying lots 13 and 14 from lay tome Pty ltd which will then be leased back to, and managed by, the current owner. The proposal is for both Karrakup Springs Pty ltd and lay tome pty ltd to share the bores and pumps. Laytome Pty ltd will continue to pump 60,000,000 (60 million) litres of water per year to water the orchard trees mostly in summer, while Karrakup Springs pty ltd will take a further 50,000,000 (50 million) litres per year, pumping 24 hours a day, 7 days a week. (See application)		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		• Karrakup Springs will filter the water on site then load it into large RAV restricted tankers to be taken offsite to an unnamed facility where it will be further treated and packaged for sale under the Black Mount name. The preferred route for accessing and exiting the site is south along Nettleton Road and out along Jarrahdale Road to Albany Highway or Southwest Highway. (Application - Section 5) **2. Why this proposal should not be approved by the Shire** On their website, Black Mount Natural Spring Water claim that they only take water sustainably, so that the water source is never depleted. They also claim that they contribute to the local communities near the springs involved. While this may be the case in the places where these other sources are situated, it cannot be true for the Gooralong Serpentine Catchment area or the communities that live in that area and depend on the catchment for water. Firstly, the water available in the catchment area is decreasing with climate change, so it is simply not possible for this company to take 50 million litres a year sustainably. Western Australia is the driest third of the driest country in the world and getting drier. We should not be allowing valuable water to be taken out of local communities when users are already struggling with drying water sources. That is increasingly becoming the case in the Gooralong Serpentine Catchment area. The Shire of Serpentine Jarrahdale will have to deal with this kind of water issue often in the future, and should seek to establish, as soon as possible, a policy that sees water sources protected and preserved for local users. Secondly, the tankers they wish to use are Restricted Access Vehicles (RAV's) and the roads they wish to use these vehicles on (Jarrahdale and Nettleton Roads) are RAV restricted. Using these vehicles on these roads will endanger the community and its children. No amount of donations to the local school can justify this level of danger. The following is a more detailed analysis of the Hydrogeological Assessment and the Transport Impact Statement. As will be explained the writers of both these reports have not been entirely open in their analysis.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		A. Water Issues **Zoning of the orchard area** In the main application document ('the application') produced by Burgess Design Group, the area of Cooralong Orchard is reported to be described by the Metropolitan Region Scheme (MRS) and the Shire of Serpentine Jarrahdale Town Planning Scheme No 2 (TPS2) as being zoned both Rural and Water Catchment (sections 3.1.1,3.1.2, Figures 3, 4). (Note - the application states that the TPS2 uses only the rural zoning. However, Figure 4 which comes from the TPS2 clearly shows that the TPS2 recognizes the dual zoning of the orchard area.) The dual zoning of the orchard area ensures that the rural interest is not the only interest to be considered when making water allocation decisions. The Hydrogeology Assessment notes that the orchard and the surrounding forests form part of the Serpentine River Catchment Area (section 4). The valley in which the orchard is located is part of the headwaters of the Gooralong Brook, and rainfall in this area feeds into the Gooralong Brook both as surface water and ground water. The Brook runs down through the surrounding forests, through the Jarrahdale townsite and then enters the Serpentine River below the Serpentine Pipehead Dam. The Hydrogeology Assessment notes that 'Any use of groundwater/sur/ace water at the proposed site may have an effect on users both upstream and downstream.' (section 4) **b) Who are the users of the catchment area?** The main users with legitimate rights to use this catchment water include people using water for household purposes and watering gardens; for rural activities like watering stock, producing produce like fruit or vegetable or growing crops; for firefighting; by the forest and its inhabitants; the Serpentine River itself; and others eg tourism, hikers(**c) How is water allocated in a balanced way between users?** Lots 13 and 14 Nettleton Road are in the Karri Groundwater Management Area, as is most of Jarrahdale and Karrakup. It is not a proclaimed area and therefor does not come under the licensing provisions of the Rights in Water and Irrigation Act, administered by		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		the WA Department of Water and Environmental Regulation (OWER). (Hydrogeological Assessment section 1) However, OWER does have a role if a commercial interest makes an application to the local Shire to extract large amounts of water. The application by Karrakup Springs pty Ltd is one such application. The Shire is obliged under the Act to forward the application to the DWER for their comments and advice, but the Department has no say in the decision about the application (as opposed to other water extraction areas like the Jandakot Drinking Water Mound). The Shire makes the final decision by looking at the advice provided by the Department of Water and any other advice, eg the amount of water available and the needs and rights of other users. The Shire of Serpentine Jarrahdale has advised that it has sent the proposal to DWER and received advice on the application. **d) How much water is available in the Gooralong catchment?** The catchments around the western part of the scarp that feed into underground water are very small. So, the amount of rainwater that makes its way underground is also very small. Some of this water becomes trapped in small cisterns (pools) underground. These are very easily depleted of water when pumped out. The Gooralong Serpentine Catchment is one of these small catchments. (See letter from OWER to P Muecke re scarp catchments; Hydrogeological Assessment section 3.1). There is nothing wrong with the Assessment as far as it goes. The problem is with what it did not say! The Hydrogeology Assessment noted that recharging of the underground water is dependent on rainfall and that rainfall has declined 10% over the last ten years due to Climate Change (section 2.1). This Assessment remains silent about other changes to the amount of water available in the catchment. That is a huge omission in this Assessment because it is difficult for the Shire of Serpentine Jarrahdale to assess how		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		much this extraction by Karrakup Springs pty Ltd will impact in the future without this information. The Hydrogeological Assessment fails to mention that rainfall has been declining/or more than 10 years, and in fact has been declining since the early 1970's. It is predicted to fall further in future. There is no excuse for failing to discuss these predictions as there is a large volume of work publicly available on the internet, and even on the Water Corporation's website. Rainfall in catchments in the southwest has declined 20% in the last 40 years and is expected to fall a further 15 % by 2030 (Other sources give a lower estimate than this). The decline in rainfall so far has resulted in catchments drying up and contributed to an 80% decrease in stream flows. Dams no longer collect enough water and 45% of our water now comes from desalination plants. Desalination is an expensive process in itself, tourism, hikers. but is made more expensive because the desalinated water also has to be pumped up into our dams for storage. (Water Corporation's website - Climate Change in the South West) The Hydrogeological Assessment states (at sections 4 and 5.3) that the withdrawal of 50,000,000 litres will not affect downstream users. Given the writers propensity to only include information favourable to the client, it is difficult to trust these conclusions. Anecdotal stories told in this area indicate that a number of bores, soaks, dams and streams have dried up over the last 30 years, which correlates with the Water Corporation figures. I know of three right in my street, all gone since I moved here 16 years ago. No mention is made in the Hydrogeological Assessment of the water needs of other users of the catchment. The Assessment recognizes that the orchard area is zoned both Rural and Catchment yet failed to take into account the needs of other users other than rural users. If Gooralong Brook were to dry up it would be disastrous for forests in the area. Trees, birds and other animals that live in the forests all rely on the water from the Gooralong Serpentine Catchment Area. Already many species are coming under stress because of the drying catchment (Water Corporation website - Climate Change in the south west). We could also lose water in tourism areas including Turtle Creek, the Quokka Habitat, Kitty's Gorge etc.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The Serpentine River arises above Jarrahdale and Serpentine and flows into the Peel Inlet. It is a very compromised river because of the amount of water that is retained in the Serpentine Dam and the Serpentine Pipehead Dam. The reduced flow on the other side can lead to stagnation of the river. To combat this the river is monitored and if the flow is inadequate water must be released from the Serpentine Dam to flush the river. (Notice on fence at picnic area) If this 50,000,000 litres year on year contributes to decreased flows in the Gooralong Brook and so decreased flow in the Serpentine River, will more water have to be released to make up for the loss to the Serpentine River? If so, that means more of the expensive desalinated water would also be used for this purpose. The taxpayer would then be subsidizing this company. That does not seem to make any sense. **e) Is the extraction of water for sale interstate and abroad a rural activity?** There is an argument put in the application that this extraction of water could be called a rural activity (ignoring once again the dual rural and catchment zoning) (Application section 4.1) This is clearly the wrong discussion to be having. The question is: Will selling off this water still leave enough for the communities in the Catchment area? Well, if we lived in an area of the world where climate change is causing increased rainfall, like Kenya where lakes have permanently covered whole villages (Time April 26/May 3: Awash in Kenya, Page 62), we would be probably begging people to take the water. But we live in the driest county on the planet and climate change is making that worse. We cannot say for sure at this stage that the Gooralong Serpentine Catchment will not dry up. However, the trend downwards is scary! Water is essential for life. Without water life dies. The risk with this application is simply not worth it. We are not the only ones getting worried. In recent weeks there have been 4 or 5 ABC news reports on different groups around the country wanting to conserve their local water supplies. **The fights over water have well and truly begun!** **let's play it safe - SAY NO to this application.**		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		B. Traffic Issues A Transport Impact Statement was prepared by consultants Stantec Pty ltd. Significant aspects of this report are very concerning: **a) The plan to change the current status of Jarrahdale and Nettleton Roads** Stantec admits that at this time there is no legal way for the RAV (Restricted Access Vehicle) tankers to enter or exit the subject site as both Nettleton and Jarrahdale Roads are currently not classified as RAV accessible roads (Section 2.2). The nearest RAV compatible roads are the Southwest Highway and the Albany Highway. Stantec state that the preference would be to enter and exit the subject site using Jarrahdale Road and Nettleton Road to the south (Section 2.2,3.1). Stantec states that the width of Nettleton Road is 6.7m including the sealed carriageway and unsealed shoulders (section 2.2). later, Stantec claims (section 6) that the sealed carriageway is 6.7m and therefore exceeds the minimum requirement of 6.4m of sealed carriageway needed for RA V's. There is obviously something wrong with these contradictory measurements and they would need to be thoroughly checked as to which is correct. Stantec states that for RAV's the required minimum total width of the carriageway including sealed carriageway and unsealed shoulders is 8.2m, and that the total width of Nettleton Road is 9.5m (section 6). It is also unclear how these measurements were calculated. Were they from several parts of Nettleton Road or just from one spot? Reading the Impact Statement, it is clear that the report relies heavily on desktop analysis and there was little, if any, work undertaken on the ground. A drive down Nettleton Road shows that there are many places where the bush is right up to the sealed carriageway. And even when, from a satellite view, it looks as though there are gravel shoulders they almost always slope away from the sealed carriageway and are often rough with bumps and dips. In other words, they are unformed shoulders. In many cases road signs are in the shoulder area. Sight distance for tankers exiting the site is also a problem. The site distance to the north is well above the 252m requirement for a 100kph road but to the south it is only 180m		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		because of a vertical crest on the road to the south. This will not only make it difficult for the truck driver to see what is coming from the south but also make it difficult for a vehicle approaching from the south to see a stationary tanker waiting in the northbound lane to turn into the site. The claim is that this is unlikely to happen because of low traffic volumes (section 9). I find that argument unconvincing. **'Unlikely'** does not mean **'Impossible'**. However, says Stantec, because Nettleton Road has little traffic, with no cycle lanes, footpaths, formalized roadside parking or public transport, it is suitable for RVA/s (sections 6 and 7). **That is an Incredible piece of whitewashing.** Although Stantec is totally silent on the suitability of Jarrahdale Road for RAV use, on the basis of the above, it suggests that an application should be made to Main Roads to have both roads reclassified as suitable for RVA use (section 3.1). **b) Current users of Nettleton and Jarrahdale Roads.** The truth is that Nettleton Road and Jarrahdale Roads ARE USED by buses, including school buses, Perth Transport buses (on Jarrahdale Road) and tourist buses. Cyclists **ARE COMMON** on both roads particularly Nettleton Road, and as there is minimal to no useable verge it would be difficult for an RAV to pass a cyclist safely. Nettleton Road also interacts with equestrian trails, mountain bike trails, 4-wheel drive trails and hikers. Wildlife frequently crosses both roads particularly Nettleton Road, including kangaroos, wallabies, echidnas, bandicoots, various species of reptile and sometimes even quokkas (Jarrahdale Road). There are other impediments including difficult corners, steep gradients, no arrester beds (on Jarrahdale Road), and too many private driveways exiting onto these roads. Collisions with RAV's are a distinct possibility particularly on Nettleton Road where the speed limit is 100 kph. There is also the possibility of a runaway tanker down the steep gradient on Jarrahdale Road. With no arrester beds goodness knows where it will end up. **c) Impact of RAV vehicles being certified for use on Nettleton and Jarrahdale Roads.**		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		Stantec states (section 5), "It is expected that up to 4 tankers a day will access the site, equating to 8 vehicle trips per day. These trips will be spread across the 24 hours and will not be focused to the typical AM and PM peak periods." This indicates that the tankers will be using these roads during the night with the associated truck and air brake noise causing problems for people on these roads. Roadkill will also increase substantially at night. RAV truck drivers have long wanted to use Jarrahdale Road as a short cut between Southwest Highway and Albany Highway. With the extension of the Tonkin Highway arriving at the Southwest Highway near to Jarrahdale Road in the near future the pressure will be on to open Jarrahdale Road to RAV's. The trucking industry will be watching the outcome of this application with great interest. If this project is permitted to use RAV's on these roads it will be difficult to deny other RAV's, like the sheep B doubles, similar use of the roads. This is an incredible Impact Statement for Black Mount to submit to the Shire of Serpentine Jarrahdale given all the fanfare on their website about establishing good relationships with the communities they operate in, and about how they contribute positively to those communities. It is what is called in todays world "**greenwashing**"! **The Shire must say NO to this application!** (ASIC Extraction documents attached to doc IN21/28288.) (Copy of DWER letter to submitter from 28/5/2019 also in IN21/28288)		
A140600	14	I object to the proposal for groundwater extraction on Lots 13 and 14 on Deposited Plan 434312, Karrakup My comments are attached. My concerns relate to the export of water from the Gooralong Brook catchment, at a time when the development of the Jarrahdale townsite (which lies within the Gooralong Brook catchment), is restricted by inadequate water supply. The extractable water resources of the catchment should be used for local development and exporting water for luxury consumption from a community that is short of water is unacceptable.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The hydrogeology report on the proposal also has a number of weaknesses, which make it very difficult to predict the result of exporting 50ML of water. I also have concerns about the proposed opening of Nettleton Road and Jarrahdale Road for use by RAVs, either by reclassifying the roads or by granting of Ministerial permits to transport operators. Thank you for the opportunity to make a submission. **Transport** The export of water proposed from the Nettleton Road catchment involves heavy transport on inadequate roads and through the Jarrahdale townsite. Nettleton Road is narrow, has a poor quality paved surface and narrow shoulders. Jarrahdale Road is better constructed but like Nettleton Road, it is not classified as an RAV route. For the export of water from Nettleton Road catchment, it is proposed to have both roads reclassified as RAV routes. Should this not happen, we anticipate that Ministerial permits will be pursued for the transport of water, a strategy that was successfully adopted in the past by livestock transporters. With the precedent set by water tankers, we expect livestock transporters, and then grain and fertiliser transporters to follow suit. We are currently trying to find solutions for increased traffic, including heavy transport, through the town and between Jarrahdale and the South West Highway. This problem will be made worse by the extension of the Tonkin Highway to the end of Jarrahdale Road at the South West Highway. Jarrahdale Road already has too many illegal road trains, single semitrailers and heavy rigid trucks on it 24 hours a day. This use should not be encouraged at a time when the community is struggling to tackle the traffic problem in the face of resistance from the Shire.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The Shire is arguing that the extension of the Tonkin Highway will not cause undesirable levels of traffic through Jarrahdale because Jarrahdale Road is not open to use by RAVs. If the Shire were to now support the use of Jarrahdale Road by RAV water tankers, it would be contradicting its own argument regarding traffic flow between the South West Highway and Jarrahdale, and through Jarrahdale. Opening Jarrahdale Road to pocket road trains will inflame the wider traffic debate and make it harder to resolve the problem we already have. The water export proposal, if approved, will illustrate unambiguously the problem of an ad hoc approach to development, where the lack of town planning and uncoordinated development proposals degrade the community's environment. **Hydrogeological Assessment** There are concerns about the description and analysis of the hydrogeological situation on the proponent's property and the potential consequences for other private properties and the environment off-site in the Gooralong Brook catchment. I have used the unit megalitre (ML) instead of kilolitre (kL) for simplicity. A megalitre is a thousand kilolitres. **Introduction** The general description of the valley and the rainfall record is adequate, though there is a tendency to define the extent of the catchment differently in different sections of the report, which clouds the issue. A small catchment that is a mixture of pasture, orchard, rehabilitated bauxite pits and regrowth native forest, with a variety of soil profiles1 and a largely unknown basement rock profile, is a very complex system. A consistent definition of the catchment would help understand the proposal. **Jarrah forest soils** The general knowledge of the northern jarrah forest soils includes the identification of unusual vertical channels through the deep kaolin clay stratum. [2 3 4 5] The kaolin clay is		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		quite impermeable to water flow, as was emphasised by the hydrogeology report. However over long time periods, the forest vegetation has opened pathways through the kaolin which allows roots to penetrate to the aquifer that sits on top of the basement rock. These root channels contain live and decaying older roots and coarse textured soil; as a result they also provide a pathway for quite rapid drainage of rainfall water from the upper soil layers (water which is often held for short periods in near-surface perched water tables), to the aquifer at the basement. The kaolin clay stratum remains quite impermeable to horizontal water flow, while the basement aquifer underneath the kaolin allows for comparatively easy horizontal flow on top of the basement rock. The net result is that a large proportion of rainfall that enters the soil drains to the basement aquifer, and the tree roots then access that water throughout the year. Water movement downslope through the catchment is largely determined by the basement aquifer. These characteristics of jarrah forest soils, described in an extensive body of literature, is at odds with the following statement on page 6 of the report: “Rainfall recharge to the aquifer is considered to be low in the Nettleton Road area due to the clayey nature of the weathered bedrock.” [1] This small valley includes deep soil lateritic ridges and slopes varying through to valley floors that, before clearing, may have contained a swamp or seasonally waterlogged soils. This implication comes from the need in the past to construct a drain through the property for the benefit of the orchard. [2] Kimber P.C. (1974) The root system of jarrah (Eucalyptus marginate Sm). Forest Department of W.A Research Paper No. 10. [3] Dell B, Bartle J.R., Tacey W.H. (1983) Root Occupation and Root Channels of Jarrah Forest Subsoils. Australian Journal of Botany 31, 615-627. [4] Johnston C.D., Hurle D.H., Hutton D.R., Height M.I. (1983) Water movement through preferred paths in lateritic profiles of the Darling Plateau, Western Australia. Groundwater Research Technical Paper No. 1. CSIRO Melbourne. [5] Schofield N.J., Stoneman G.L., Loh I.C. (1989) Hydrology of the jarrah forest. In: Dell B., Havel J.J., Malajczuk N. (eds) The Jarrah Forest. Geobotany, vol 13. Springer, Dordrecht.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The combination of the soil profile and deep rooted vegetation results in a large proportion of the rainfall being lost from the landscape by evapotranspiration.6 The small margin left over7 is the catchment water yield. It comes to the surface and forms water courses lower in the catchments. Very little of the rainfall runs over the soil surface (overland flow) into creeks. **Catchment water yield** The report nominates 6% of rainfall for the water yield (also called through flow) for the Nettleton Road micro-catchment. It is acknowledged in the report that this is only a typical value. Due to complexity of the task, there is no measurement of this yield for the Nettleton Road catchment. There is also no measurement of flow in the surface drain through the proponent's site, or the Gooralong Brook further downslope. In spite of this lack of data, it is still generally the case that if we assume the catchment yield is 6% (+/- an unknown error) of rainfall, then if rainfall declines by only another 5% as is anticipated for the future[8], there will be virtually no through flow. The forest will continue to take as much water as it can reach[6], including directly from the basement aquifer, and the aquifer will be depleted, meaning there will be no water table and no catchment through flow or water yield. This is demonstrated convincingly at the large scale: a 10% decline in rainfall on WA's forested catchments since the 1970s has been observed to reduce catchment water yield into the metropolitan dams by 60%[8]. The lack of a water table, where the "aquifer" of coarse-textured weathered rock on the top of the basement rock holds no extractable free water, is a common condition for many of the ridges in the jarrah forest, and was so even before rainfall declined after the 1970s. In addition, jarrah forest observation bores sunk to the basement, even in stream zones, have commonly dried out in the recent past. As the upper slopes of Gooralong Brook catchment are occupied by actively growing post-mining rehabilitated forest and regrowth jarrah forest, it is likely those ridges also do not have a water table. The actual proportion of the Nettleton Road micro-catchment, and the wider Gooralong Brook catchment, that yields water into the Brook itself is not known – if half to two thirds of the land area of the micro-catchment has no water table, only one third to half of the catchment is yielding		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		water that is regarded by the proponent as "surplus" and available for pumping and export. It is not practical in an economic sense to quantify the capacity of the micro-catchment to reliably and continuously produce water for export. Most of the significant complexity in this system is underground, little is known about this specific valley, and it would be prohibitively expensive to thoroughly investigate. We all have to rely upon the general knowledge of the jarrah forest soils based upon research mostly conducted in the 1970s and 80s, and in this proposal, *a single pump test*. [6] Evapotranspiration is the combination of evaporation from wet vegetation and soil surfaces, and transpiration from the foliage of the forest, pasture or orchard trees. Plants have to lose ("spend") water by transpiration in order to take in carbon dioxide for plant growth and energy. In a jarrah forest, competition for water for transpiration is very strong because tree growth (competitive advantage) is limited mostly by the availability of water in the soil profile. [7] Ranging from almost nothing in the eastern forest to about 10% of rainfall in some steeper wetter valleys in the wettest western forest. [8] https://www.water.wa.gov.au/planning-for-the-future/allocation-plans/managing-water-in-a-changing-climate/climatechange- impacts-on-the-south-west **Pump testing the bores** In the report it is openly admitted that the pump test was not conducted to Australian standards, presumably because it was not feasible to do so with the resources made available to the hydrogeologist, and/or because the test was conducted without the involvement of the hydrogeologist and he was presented with the data to interpret. The pumping operation was conducted by the proponent's own staff. This may be a suitable approach to take from the project proponent's perspective, as they are most interested in the financial risk of investing in an additional water supply for their overall Australian operation. They understand what level of risk they are prepared to take. However the consequences of extracting 50ML of water per year, continuously		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		throughout the year, from this catchment may have serious off-site consequences. Launching the project on the basis of such limited information is step into the unknown. Due to the lack of quantitative information, this project would present a significant level of off-site risk, imposed upon our local community, nearby land holders, the environment in the Gooralong Brook catchment and Serpentine River. The Gooralong Brook is home to an uncommon mainland quokka colony near Jarrahdale town site, and if this swampy area becomes drier, it will become vulnerable to extreme wildfire, which the quokka colony would be unlikely to survive. These combined risks require a lot more than a single pump test of unknown quality, which was honestly described by the hydrogeologist as "rudimentary". **Reduced irrigation requirement** Attention is drawn in the report to the reduced irrigation on the orchard since 2003. The argument is made that as irrigation water use was much greater than 50ML in the past, reducing irrigation demand will compensate for the proposed extraction. However, as discussed below in more detail, there is only indirect and qualitative information available about past water use. Water was also pumped into a storage dam during the wet season for irrigation during the dry season. This suggests that past water use was taxing the capacity of the catchment to deliver, and the implication that irrigation is equivalent to water export makes no allowance for the fact that irrigation is applied in excess of the crop requirements, so an unknown proportion of the irrigation returns to the catchment aquifer. The Gooralong Brook feeds into the lower Serpentine River below the Pipehead Dam, and Water Corporation releases water from the Serpentine Dam into the Serpentine River for environmental flow. Due to the reduction in all forest stream flows, these metropolitan dams are now used to store desalinated water. The situation is likely to arise where water extracted and exported from Gooralong Brook will reduce the natural environmental flow to the lower Serpentine, which will increase the need for water release from the Serpentine Dam. A public water resource will need to be		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		deployed to compensate for the export of water from the Nettleton Road catchment. A proportion of that additional release will be desalinated water. It would make more sense in terms of resource allocation, productivity, and efficiency, to simply take water for bottling from the desalination plant. Parts of the hydrogeological report will now be considered in greater detail in support of the discussion above. **Section 4 Existing and previous groundwater use** The level of pumping in the past is used to argue that 50ML is a comparatively modest extraction. However the orchard appears to have been short of water in the past, as the orchardists dug a dam (a sump) in which they stored bore water for later use during the dry season. The bores were not able to keep up with demand during summer by an unknown amount. We do not know when this storage dam was built – it may have been required before the orchard reached its largest area in 2003. Historic water use was greater, estimated to have been up to 312 ML in 2003 on the basis of general industry practice. It is estimated to now be down to between 64ML and 96ML (see Table 4). The nominated “nearly 250ML” (page 7, immediately below Table 4) drop in water consumption implies 312ML - 250ML which assumes current consumption of about 64ML. This calculation involves crossing Table 4 diagonally from maximum per hectare use in 2003 to nearly minimum per hectare use in 2021. (In Section 7, the reduction in pumping is described as being between 144ML and 216ML. A consistent approach would make the report easier to follow.) It is equally probable that in 2003, water supply was restricted as the bores struggled to keep up with demand – suggesting about 208ML of irrigation. As the orchard area was reduced, water delivery would have been less constrained, and possibly water applications increased per hectare, suggesting up to 96ML at present. By crossing Table 4 on this diagonal (minimum use to maximum use per hectare), we get a reduction of		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		irrigation supply of 112ML. In summary, we don't know what the reduction of irrigation supply was, but it was probably more than 50ML. There is reference to the drain through the property and water springing out near the forest boundary in August 2021, but the message from this is unclear. It may be meant to imply that this surface water flow is significant for stream flow in the Gooralong Brook. However there are no stream flow data, either in the drain or the Gooralong Brook. It is likely that given the recharge of the basement aquifer by the vertical root channels as described above, the Gooralong catchment basement aquifer is coming to the surface in the swamp and stream bed closer to Jarrahdale, upstream of the bars of basement rock across the stream bed. Rather than the suggestion that overland flow from the proponent's property is supplying the Gooralong Brook, it is probable that the Brook is supplied primarily from the aquifer on top of the basement rock, from which the production bores are also drawing water. Extraction of 50ML may be a lesser issue than past irrigation, as stated in the report, but there are no data to support this. The removal of orchard trees in the recent past is probably making more water available via surface runoff from winter perched water tables near the soil surface. It is unknown how much difference this is making to the aquifer on top of the basement rock or how much it is contributing to stream flow in the Gooralong Brook. **Section 5 Groundwater investigations** 5.1 Aquifer parameters Test pumping from page 9 of the report (with my emphasis): "Test pumping was carried out in April and May 2021 by Karrakup Springs Pty Ltd staff on bores PB1, PB2 and PB3 with water level loggers installed in bores PB1 to PB4. Although not carried out to Australian Standards the test pumping and logger data from the PB1 test was considered **suitable for rudimentary test pumping analysis**." As mentioned above, this rudimentary testing may be adequate for the proponent's business case, but it is inadequate from the perspective of nearby landowners, and does		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		not recognise the significance of the Gooralong Brook environment, or the role the Gooralong plays in supplying the lower Serpentine River. Considering the size and experience of the parent company of the proponent, and their prominent focus upon sustainability, this approach is surprising. The report reads as if four bores ("bores PB1 to PB4") were instrumented, and tests were carried out in April **and** May. In Table 5 data are presented from bores PB1 and PB3, collected on 28 - 30 April. Are there data from the other bores, and was data collected in May? It is sometimes the data that are left out of the discussion that provide the most information. It would be appropriate for all the data to be presented in raw form and analysed by an independent hydrologist. The timing of the pump tests may be important, and testing in late autumn would commonly coincide with soils near their driest state if the rain season had not broken. Taking the months of March and April together, rainfall data from Table 1 of the report are: March and April - long term average annual rainfall 85mm March and April - annual average for years 2011-2020 75mm March and April - 2020-2021 111mm The period just prior to the pump tests was an unusually wet autumn. The effect of this on the test is unknown. On page 10 is the statement: "An attempt was made at a drawdown-distance analysis of the PB1 test but the results yielded a transmissivity of nearly 200m3/d/m which was considered unrealistic." What does this mean? Are the pump test results valid? Is there some characteristic of the soil profile that has not been detected? There are so many unknowns in the proposal, it would appear appropriate to refer it to the Department of Environment and Water Resources, and their report made public. **5.3 Groundwater Chemistry**		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		There was an analysis conducted on the major components, but has there been analysis of the water for pesticide contamination? This is a routine requirement for development proposals of old market garden properties in the metropolitan area. Given the purpose of this development is to produce potable water, would it have been appropriate to analyse water samples and present the information about the presence or absence of contamination with the proposal? Presumably the Department of Health been included in the evaluation of this water extraction proposal. If so, will their report be made public? **Section 6 Groundwater resources** **6.1 Ground water storage and movement** 61.3ML is estimated to pass through the extraction site per year and presumably this water is the 6% of rainfall left after evapotranspiration from the Nettleton Road micro-catchment. Presumably the 50ML proposed to be extracted will reduce the water yield from southern (downslope) side of the extraction site by about 80%. If rainfall declines by 1% in the future, then the 50ML extracted will account for all of the through flow of the site. This suggests that the basement aquifer under the site will effectively be exhausted. Given all these numbers are best estimates with no quantified site-specific basis, it is not possible to say whether or not even the 50ML will be available for extraction, which is the proponent's commercial risk. However it does indicate quite strongly that, considering the large errors in the estimates, there is a high probability that the 50ML extraction will effectively stop all water yield from the bottom of the Nettleton Road catchment. We can expect serious consequences for the properties to the south of the extraction site. A single pump test with the shortcomings mentioned previously offers little reassurance. This is discussed further under the Section 7 heading below.		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		6.2 Recharge to catchment In this section, the scale of the Nettleton Road catchment is expanded from an estimated 800m wide (Section 6.1, page 11) to 325 ha as per Fig 2. This larger catchment area, and the 1000mm of rainfall per year, multiplied by the estimated 6% of rainfall that is not lost to evapotranspiration, results in an estimate of 195ML of catchment yield – the water left after evapotranspiration. There does not appear to be a clear explanation of the 134ML difference between the 195 ML and the 61ML calculated to pass through the project site, which is the bottom of the catchment, where the catchment yield (or "surplus") could be expected to pass. There may be the suggestion in the report that overland and shallow subsurface flow accounts for the approximately 130ML difference. On page 12 of the report is the following: "On-site observations of the forested areas along the east and west flanks of the cleared area would suggest that there is minimal surface runoff in the rehabilitated and mined forest areas and that subsurface runoff is the main contributor to runoff. Subsurface runoff was observed on the western side of the properties where water was springing out along the base of the lateritic hard-cap and on top of the kaolinitic clays and contributing to the base flow of the drain running down the centre of the property." These observations were made during a site visit on 3 August 2021, and follow a very wet July during which 444mm of rain fell. This is almost twice the long term average of 227mm for July. It is also not specified whether this springing of water was occurring above or below the paved surface of Nettleton Road; it implies the springing was inside the property boundary, in which case the water shedding off the paved road may be causing or adding to this discharge of water. Again, there are inferences being made with little data. The Gooralong Brook catchment needs to be analysed as a whole and reliable data collected before any confidence can be attached to estimates of water availability. **Section 7 Sustainability**		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		In this section, the "nearly 250,000 kL" (250ML) mentioned in Section 4 is now reduced to be between 144Ml and 216ML. This assumes that the same irrigation strategy was followed over the 18 year period (see Table 4). As discussed above under "Existing and previous water use", if the minimum water strategy was followed in 2003 (when the area irrigated was at a peak and water supplies were likely to have been tight), and then the maximum irrigation strategy was followed in 2021 when water supplies per irrigated hectare were relatively plentiful, the reduction would have been 208ML minus 96ML = 112ML, which is half the water saving presented in Section 4. There is no evidence presented to support any of the possible scenarios; they are all equally feasible, so there is no substantial evidence of how much water consumption has been reduced. The fact that some irrigation water re-enters the aquifer makes direct comparison between reduced irrigation water (between 112Ml and 216ML) and 50Ml of water transported from the site problematic. Recommendations are made about bore spacing and placement to minimise drawdown at the bores and the risk of off-site impacts. However the bores proposed to be used are those already in place. A suggestion is made on page 14 that if the neighbouring properties suffer water supply problems as a result of drawdown by the proponent, water could be supplied by the proponent to the neighbouring landowners. This assumes that on-site drawdown will allow the provision of additional water (above the 50ML) to the other properties. The amount of water will be finite, and simply using the proponent's bore field to compensate for impacts distant from that bore field seems to assume that pumping even more than 50ML will be sustainable. The existence of serious off-site impacts would seem to demonstrate that 50ML is not sustainable. Regular monitoring of the situation is recommended to "…. allow a better idea of the sustainable abstraction limits at the site". No procedure of how to respond to unacceptable impacts upon neighbours or the Gooralong catchment is described. No commitment to reduce pumping is suggested. It is not clear if the off-site impacts are		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		unacceptable that any agency would have the authority to compel the proponent to reduce or stop pumping. **Conclusions on the hydrogeological assessment** The Gooralong catchment may well be able to sustain some level of water extraction, but it would be preferable that this water be used for maximum benefit to the local community. Jarrahdale has a water supply problem and the Water Corporation is resistant to upgrading the town supply. As a result: Future development proposals for the town are constrained by the limited capacity of the town's water supply infrastructure. Any proposal to establish new businesses or facilities is likely to be burdened with the cost of upgrading the existing town water supply, if the development project requires significant quantities of water. Consequently, developments such as an RV/caravan park, a microbrewery, or landscaping in the town site to cater for the growing tourist activity, are difficult to initiate. The development of a local water resource for the town would help underpin new development, which would be to the benefit of residents and visitors alike. The Gooralong Brook catchment is already under consideration for this purpose. Before development of a water supply for Jarrahdale takes place, it would be expected that a thorough investigation of the entire Gorralong Brook catchment be undertaken to determine how bores could be distributed through the catchment in such a way as to minimise the impacts upon local landholders and upon the environment. Such a development could also be advanced in stages so that any adverse impacts could detected at a small scale and rectified before the next stage was implemented. The project could be advanced under the control of the Shire, so that balance between the environmental costs and community benefits could be maintained. Western Australia and particularly Perth and the more populated south west corner of the State has a problem with limited water supply. Desalination now provides more than 40% of our scheme water. Jarrahdale is experiencing the problems of limited water supply now and town development is being restricted as a result. It is irrational to allow export of water from the		

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		Gooralong Brook system, where the local water supply is inadequate and the resource is needed here. The unintended consequence of having to use high-cost desalinated water to replenish environmental stream flows in the lower Serpentine River due to export of water from that same river's catchment completely defies logic. In this region, the luxury use of water should rely upon desalinated water.		
Online	15	I would like to see the environmental study that was done regarding this application. The environmental impact on the whole of Jarrahdale will be negatively impacted. This is an extract from Water Corporation website: Protecting groundwater "We all need to use groundwater wisely to help secure Perth's water future. Overuse of groundwater can result in a system out of balance. If garden bores draw water faster than groundwater is recharged by rainfall, groundwater levels can drop. This has a serious impact on Perth's lakes, wetlands, parks and bushland. Falling groundwater levels can also lead to water quality problems, including acid sulphate soils and saltwater intrusion. Climate change combined with groundwater abstraction is having a measurable and visible impact on Perth's waterways and wetlands. The community, government, businesses, industry, local governments and households all have a role to play to protect the precious resource that is groundwater."		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	16	I do not wish natural resources to be removed from this area that has lost so much already.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	17	Our main water supply is through a well that taps direct into the ground water. This supply runs dry every year and we need to go to rain water tanks for garden and house supply. There is a chronic water shortage in this area. There is no way that the environment can support this type of application. I do not understand how anybody could be permitted to		Thank you for the submission. These matters have been addressed and

SUMMARY OF SUBMISSIONS
PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		draw precious water from the ground and be able to bottle and sell it. It should never even be considered by Council		considered in the consultation and planning assessment sections of the report.
Online	18	This forest environment cannot sustain the extraction of water in this manner.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	19	I believe the forest, aquifer and the environment generally cannot sustain this purposed activity.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	20	Do not do this. Local Firey and I know how much when need this water and moisture up in our hills. You can't take away the water that might just save us one day.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	21	As the world increasingly prohibits the distribution and sale of bottled water, it is inconceivable that SJ Shire would give serious consideration to such a proposal.		Thank you for the submission. These matters have been addressed and

SUMMARY OF SUBMISSIONS
PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
				considered in the consultation and planning assessment sections of the report.
Online	22	Ground water reserves which we need for drinking and stock water will be reduced.		Thank you for the submission. Acknowledged.
Online	23	Has the potential to impact ground water levels which is a sensitive subject in a shire where many homes have no scheme water and are totally dependent on ground water reserves. Inevitably at least some of the water sold will be in single use plastic containers. I object.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	24	I don't believe the water table can handle such a big draw and how much will it affect those in the areas surrounding the site with their bores and the dam levels.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	25	I think the water is needed for forest and current orchards there.		Thank you for the submission. Acknowledged.
Online	26	I am concerned about the long term environmental impact of extracting large amounts of water on the local ecosystem. I would like to see an environmental impact review before this is considered. The likely long term environmental damage to local areas would be irreversible. The impact on road safety is also of concern with large trucks accessing a		Thank you for the submission. These matters have been addressed and considered in the consultation and

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		windy hilly road. I am not sure there is any long-term benefit to the community if this project went ahead.		planning assessment sections of the report.
Online	27	The fact that this application is even being considered is horrendous - the environmental effects it will have on our already struggling water systems due to the orchards will be environmental suicide. First we have Alcoa causing deserts, now this. I don't need any documents to support my findings because it is so obvious the damage this will cause.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	28	The groundwater in the hills has diminished greatly over the past 20 years that we have lived here. Many bores drying up already, to the point where some farmers have had to give up trying to grow their crops. There are already large areas of the Jarrah forest dying due to the water table falling beyond the reach of their roots. On our own property we have lost over 100 trees. We rely on our bore to keep our property FIRE SAFE and to maintain our gardens, if this dries completely (already in decline) it would mean we have no chance of defending ourselves in case of fire. Over the past 20 years our rainfall has decreased by something in the order of 24 inches! In view of this dramatic decrease in rainfall in such a short period how can a proposal like this ever be considered? All residents who live on properties in the hills have to be self sufficient with water, for a commercial operation like this to come into the area it would spell disaster for the local residents. If they intend on using B doubles to transport the water, what roads would these trucks be using, given they are not supposed to use Jarradale Road?		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	29	After reading the proposal I'm very concerned with how it will affect our water flow / bore uptake. Our bore has already slowed significantly since moving in 15 years ago. Given there has been previous evidence of bores drying up or slowing when something like this goes ahead, I disagree with the proposal.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
Online	30	I vehemently object to the proposal. Our dam fills by groundwater and has been decreasing each year. If this proposal goes ahead this will impact significantly on us.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	31	Concerned about large vehicle movement up and down Nettleton Road also Intersection of Nettleton Road and South Western Highway. Concerned about heavy slow vehicle pulling out onto 100km/h road off property, does not fit with rural agricultural protection zoning in area. Concerned about water removal from an already drying landscape, Concerned about quality of water being extracted and potential restrictions put on surrounding orchards in relation to spraying		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	32	This property has surrounding native vegetation and I could see little to no information of the impact that the extraction of such a large amount of water would have on the existing vegetation. This property already extracts 60million Litres annually for the use on the orchard which will continue. The impact of the extraction of another 50million Litres annually could potentially be detrimental to users upstream and downstream of Gooralong Brook as mentioned in the hydrologist report. The hydrologist report also mentioned that the extraction could have a slight impact on the Serpentine River. Rainfall is what recharges the water supply and with rainfall decreasing I would not support an extraction of water from the area due to the future impact on the existing environment and ecology. It is proposed to extract water 24 hours a day 7 days a week. What is the noise level that would be emitted from such activity? Will an independent person be doing the water monitoring or would it be self assessed? The report says the water would be monitored in the first year then every five years after that. I don't believe this is acceptable. There is no mention of how long this proposed business will extract 60million litres a year or what the action would be if they sought to extract more than what they are currently applying for. In WA the majority of people are supplied with a high standard of drinking		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		water. The market is already over populated in the space of bottled water. I don't see the point in potentially harming the existing brook, river and environment to supply more bottled water. Not to mention the effect of one use plastic vessels to put the water in. I do not support this proposal.		
Online	33	Please supply environmental impact study to be reviewed by an independent body. Identify the maximum expected truck movements per day associated with any activity as part of this proposed business.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	34	Please supply environmental impact study for verification by an independent body. Please supply expected number of vehicle movements per day associated with the proposed business.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	35	Please consider the WA Scouts Manjedal Activity Centre in relation to this proposal. As a resource, MAC provides scouts from around the state to get out in and do all the amazing activities associated with scouting in a safe and well maintained environment. This includes inner city scouts like our group (West Swan Beechboro). As MAC is so heavily reliant on both rain & ground water, the proposal to extract water from the area will have long lasting impacts on the site, placing additional strain on MACs ability to host our scouting families.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	36	Being a rural environment where services such as mains water are unavailable, sees us relying quite heavily on not only rainwater but also our groundwater supply as well. Water		Thank you for the submission. These matters have been addressed and

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		being drawn from the ground could affect us quite badly in years to come as resources become more scarce.		considered in the consultation and planning assessment sections of the report.
Online	37	I volunteer with Scouts WA and regularly use the Manjedal Scout campsite, which is quite close to the proposed development. Being in a rural environment Manjedal relies on groundwater to meet some of its water needs. A large drain on nearby groundwater will endanger the ability of Scouts WA to use the campsite during Summer, negatively impacting its youth development program and damaging its ability to raise funds from the many school groups which use the facility.		Thank you for the submission. Acknowledged.
Online	38	The removal off this water will dry Lake Jones and the Manjadel Scout Center will become a dry place for the scouts.		Thank you for the submission. Acknowledged.
Online	39	As a member of a Scouting family who has enjoyed Manjedal for two generations we are deeply troubled and saddened to hear of the water extraction plant plans, which will threaten the water and usability of the Centre. I can imagine no benefit to the surrounding area or community from this plan.		Thank you for the submission. Acknowledged.
Online	40	Work for Scouts WA this will impact us and our water use for sure. Not a good move.		Thank you for the submission. Acknowledged.
Online	41	All around the world, nationally and here in Western Australia, the reality of water security, water vulnerability, the drying effects to the natural environment and harms to community are being experienced. As a property owner in Karrakup I am very aware of the impact of continuing to reduce the water table, the effects on other down stream users, the potential further damage to wetlands and perched water availability and to the general environment. Properties are already experiencing the effects from the loss of water to their bores, dams and soil moisture. We are already feeling the effects of climate change and a warming climate and this is also a local experience. The application area, (known as Cooralong Orchard) has already had strong general use of the water dams and bores for orchard and horticultural irrigation, other rural uses and for domestic use. The harmful		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		effect on the other users cannot be understated nor underestimated. Anecdotal evidence from surrounding areas indicate a loss of available water and a drop in the water table. Along with the effect on water availability from Alcoa's planting regime in the local jarrah forest, water availability is becoming a core issue for the residents in Karrakup and downstream.		
Online	42	1. Heavy truck/B Doubles using Jarrahdale or Nettleton Road is an extremely dangerous proposal due to the impact on other road users, tourism and road maintenance. Already B Doubles are not permitted to use these roads. 2. Extracting millions of litres of ground water from the area for this purpose unlike irrigation where most water returns to the water table, this proposal means zero water will be returned to the table which in turn will effect the Gooralong brook system. The proposed extract is at the head/source of the Goorlaong water system. This in turn will also effect the Kitty Gorge trial. 3. The Shire has been promoting tourism in our area, the water ways are part of the appeal. Already our landscape has been destroyed by the removal of bauxite in the area, and removing water will ensure we just become a barren landscape. 4. Surely the proposal to remove water for the profit of single entity benefits only the entity and not the community. 5. The Shire has already received a large amount of criticism for the damaged done to Gooralong Brook near Turtle Creek and should be aware of the value Jarrahdale residents place on our water ways.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	43	I am uncomfortable about the amount of ground water being extracted on an annual basis. We are constantly reminded of how precious water is and I feel this is a completely unnecessary use of precious ground water. The only purpose I can see is for pure greed. No local residents will from what I have read, will even be able to source employment from this proposal. The impact it can potentially have on our water supplies effects ALL of us not just me a resident of Jarrahdale. My biggest concern is in regard to the trucks being used to transport the water from the plant to the South West Hwy or Albany Hwy.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		The proposal is very vague in regard to the exact route these trucks will take each and every day? There is mention of potentially using Jarrahdale Road to access Albany Hwy and South West Hwy? Where exactly is the water going and are the trucks definitely using Jarrahdale Road??? If they ARE going to use Jarrahdale Road, I STRONGLY OPPOSE this proposal. The trucks will be too large and too heavy and as the proposal suggests the road (namely Jarrahdale Road) will need to be upgraded to be part of the RAV Network. As a reminder: Restricted Access Vehicles (RAV) consists of all combinations of vehicles exceeding 19 metres in length or 42.5 tonnes gross mass including B-Doubles, road trains and truck-and-trailer combinations. As a resident of Jarrahdale who lives on Jarrahdale Road, I DO NOT want any vehicles of this size coming through our town. I see them on a regular basis breaking the law and report them often. Residents struggle in Jarrahdale already with the volume and speed of trucks and cars. I urge you to block this from happening to our heritage township. Jarrahdale Road is in no condition to handle such traffic and will become even more dangerous than it currently is. Making it part of the RAV network will simply open this up to all and increase the traffic flow of these kinds of vehicles not by the 8 mentioned trucks in this proposal but potentially hundreds from all over the state. I STRONGLY OPPOSE THIS PROPOSAL.		
Online	44	I strongly object to the proposal personally, environmentally and from a moral standpoint. Jarrahdale Road has neither the space or the infrastructure to deal with its existing traffic. It is currently misused by trucks as it is, and as both a visitor attraction and home to many families who already suffer the consequences of noise and air pollution plus the health and safety hazards of increased traffic and road degradation. I am absolutely opposed to our groundwater system being degraded any further. Alcoa have not only destroyed hectares of environmentally unique Jarrah forest but have also dropped the water table pushing local residents out of small businesses that had been keeping family's afloat for years. As for more bottled water suppliers. Are we not moving away from plastic?? Who needs more bottled water when there's already an over supply? Last but most definitely not least is the extra pressure on our unique and endangered wildlife. Already running scared from rapidly increasing urban development. I beg of you SJ shire, do not approve this. Karen A Wallace		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
Online	45	I object to this proposal as it will affect the water supply to a number of people living on Nettleton Road that have orchards and farming properties. It will affect the ground water which as you know Alcoa has been stripping. Jarrahdale needs water and anyone who has dams will also be impacted plus the streams. The Chinese owner is leasing this property to a company for monetary gains, which has no thought for the impact on the Jarrahdale community. We live in a forest and we will definitely be impacted if this proposal is granted. I would suggest the Shire respects the people of Jarrahdale with a refusal of this application.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	46	I'm concerned about water pressure reduction as it is already not great in the area.		Thank you for the submission. Acknowledged.
Online	47	With the dropping water tables this will be detrimental to the natural systems within the extraction site and those around it. The Water Corporation are currently looking into ways to limit groundwater extraction as their research shows the increase in groundwater extraction is not sustainable.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	48	With the water tables continually dropping this extraction will severely impact the natural systems at the extraction site and those surrounding it. The Water Corporation is also looking to limit the amount of groundwater extraction across WA. "This is in response to the impacts of climate change and increasing groundwater use. To learn more and have your say, visit the Department of Water and Environmental Regulation's website" I am opposing this as I believe it's fundamentally wrong on many different levels.		Thank you for the submission. These matters have been addressed and considered in the consultation and planning assessment sections of the report.
Online	49	I do house-sitting jobs and already find it hard enough to get out of driveways on Jarrahdale and Nettleton Road without having large vehicles on the road. I have concerns about the restricted access vehicles and the current classification on these roads prohibits RAV's. If you allow these RAV's to access these roads how are you going to stop other		Thank you for the submission. These matters have been addressed and

SUMMARY OF SUBMISSIONS

PA21/1002 – Lot 687, 1201 Nettleton Road, Karrakup - Groundwater Extraction

Submitter	No	Submitter Comments	Applicant Comment	Officer Comment
		RAV's from using these roads. The extraction of water will affect the amount of water surrounding properties have and what stops them from taking all the water. What happens further downstream and the effect on the environment and ecosystems. Especially with climate changes and the diminishing water supplies. Who will be responsible for providing water for the ecosystems in the future when they have finished their water collections. Who will limit how much water they can take especially when they don't need to apply for permits of follow any restrictive laws?		considered in the consultation and planning assessment sections of the report.