#### Shared Used Signage

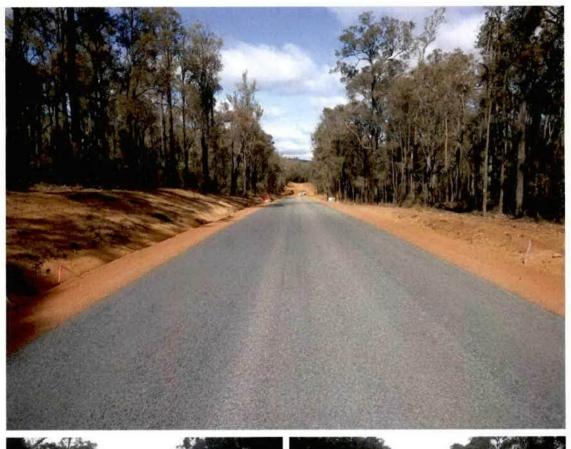


Advisory Signage WA (extract from the Bunbury-Wellington 2050 Cycling Strategy p20)



### SHIRE OF DONNYBROOK BALINGUP









**UNSEALED ROADS UPGRADE PLAN** 

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#### **Executive Summary**

Expectations of the public regarding the level of service provided by the road network are increasing. This includes both long term and new residents. Unsealed roads are often seen as being not acceptable, due to concerns such as dust nuisance, corrugations, loose material, environmental issues and safety.

The Shire of Donnybrook Balingup Unsealed Roads Upgrade Plan (Plan) has been developed in response to a Council request to undertake an investigation to develop a suitable process for determination and validation of the highest priority unsealed roads for upgrading, and to then develop a program of works to address the highest priority roads. The process was to include consideration of a range of factors such as road use, strategic significance, crash history, network connectivity etc.

The total length of the Shire of Donnybrook Balingup's (the Shire) road network is approximately 680kms, with 290kms of sealed roads and 390 kms of unsealed roads. The unsealed road network generally comprises of roads which provide a variety of functions and typically carry a range of daily traffic volumes of between 10 and 150 vehicles per day.

This assessment and prioritisation process was developed involving a range of road characteristics and function criteria. Each road was assessed against these criteria and scored, a weighting was applied to each score relevant to its importance and the weighted scores added to provide an overall score for the road. The roads were then ranked in order of overall scores. This process was refined through a number of iterations and trial assessments of selected roads of varying hierarchy.

Assessment of the Shire's unsealed road network has been undertaken for approximately xxkms of the total 390kms of unsealed roads. Assessment of the remainder of the unsealed roads is progressively being undertaken.

The assessment and prioritisation process has been utilised to develop an indicative program of works for the upgrading of approximately 1km of unsealed roads based on highest priority and a budget commitment of up to \$250,000 per year. Upgrading of more than 1km would involve a significant increase in funding. Roads that are eligible for external funding may be delayed, or brought forward, in the program of works as external funding is sourced.

Each year the priority list of unsealed roads will be reviewed and the program of works amended. The first year of the program of works will be submitted annually through the Council budget process, and the program of works will be updated annually in accordance with budget outcomes. The remaining years of the program of works are indicative only and subject to confirmation each subsequent year, however the program of works provides Council and the community a strong indication as to the status of individual roads and their likely timing for upgrading.

#### 1. Introduction

The Shire of Donnybrook Balingup Unsealed Roads Upgrade Plan (Plan) sets out the strategic planning for the upgrading of the unsealed road network.

Council requested officers develop a plan and assessment methodology for the upgrading of unsealed roads, based on a defined prioritisation process. The outcome of the review was that, of the 390kms of unsealed roads, approximately 1km per year could potentially be considered for upgrading.

The prioritisation process was to include consideration of a range of factors such as road use, strategic significance, crash history, network connectivity etc.

This Plan outlines Council's unsealed road network, the assessment and prioritisation process, unsealed road management and presents an indicative program of works for upgrading the highest priority unsealed roads.

#### 2. Road Network

The Shire of Donnybrook Balingup's (the Shire) road network currently comprises a total length of approximately 680kms with 290kms of sealed roads and 390kms of unsealed roads.

The unsealed roads are primarily located within rural areas with some minor lengths of unsealed roads within townsites.

Roads which comprise the Shire's road network are classified in accordance with the Main Roads Western Australia Road Hierarchy for Western Australia.

Unsealed roads are typically located in rural areas and generally comprise of the lower hierarchy roads as follows:

Hierarchy	Purpose	Approximate Daily Traffic Volumes
Local Distributor	Movement of traffic within local areas and connect access roads to higher order Distributors.	1-6,000
Access Road	Provision of vehicle access to abutting properties.	1-3,000

#### 3. The Challenge Ahead

Expectations of the public regarding the level of service provided by the road network are increasing. This includes both long term and new residents. Unsealed roads are often seen as not being acceptable, due to concerns such as dust, corrugations, loose material, environmental issues and safety.

Based on current construction costs, it is anticipated the Annual Budget will allow for the upgrading of approximately 1km of unsealed road each year. With this current level of expenditure it will take many years to upgrade most of the unsealed roads in Council's road network, and the majority of gravel roads will remain unsealed due to both the cost of upgrades and the lack of traffic volumes to justify an upgrade.

An important part of the unsealed roads upgrade strategy, is to continue to include provision for appropriate management of those roads which, in terms of their priority for upgrade, will not be sealed for many years, if ever. Council currently undertakes routine and programmed maintenance of unsealed roads and it is critical this maintenance continues.

#### 4. Assessment and Prioritisation Process

Council receives many requests to upgrade the existing unsealed road network. Whilst it may be desirable to upgrade some of the unsealed roads across the region, it is considered that Council should utilise available funding on upgrading roads that are of the highest priority.

The prioritisation process involves consideration of the following criteria.

· Traffic volumes

How many vehicles per day utilise the section of road? (Measured via automatic traffic counters)

· School bus route

Is this section of road on a school bus route?

· Crash history (Last 5 Years)

How many reported crashes have occurred on this section of road in the last 5 years? (Obtained from MRWA Crash Analysis Reporting System)

Strategic significance

What is the strategic significance of this section of road and does the section of road link to tourist attractions or facilities?

· Existing road geometry

What is the existing geometry characteristics of this section of road?

Environmental Impact

What is the environmental impact of upgrading this section of road (i.e amount of clearing of vegetation)?

Network significance

Does this section of road provide network connectivity to other roads and is the section of road on the RAV Network?

· Residential dwellings and Commercial businesses

How many residential dwellings and commercial businesses are on this section of road?

Each criteria is scored, from 0 to 5, a weighting applied to each criteria score and then the weighted scores are added to provide an overall score for the road. Roads are then prioritised by the total score.

Details of the Criteria, Scores and Weightings are attached as Appendix 1.

The criteria was determined through consultation with Councillors, and Shire staff. The weightings were developed via a number of iterations and trial assessments of a number of unsealed roads of varying hierarchy.

For assessment purposes, unsealed roads are segmented into sections, which are defined by intersections. This methodology of segmenting roads is consistent with asset management practices for managing roads.

Assessment of Council's unsealed road network has been undertaken for approximately xxkms of the total 390kms of unsealed roads. This initial xxkms was identified through workshops with Council, engineering and road maintenance officers.

An assessment of the remainder of the unsealed roads is progressively being undertaken.

#### 5. Project Validation

Use of the assessment and prioritisation process has enabled projects to be ranked in order of priority.

The development of an indicative program of works is dependent on the adoption of estimated construction costs and any opportunities for external sources of funding.

An indicative program of work has been prepared on the basis of current estimated average costs, in the range of approximately \$200,000 to \$250,000 per kilometre. It should be noted that actual construction costs may well be less or greater than the average rate depending on the characteristics of the particular site.

These preliminary scoping estimates for each project need to be validated prior to submission of the projects to Council for funding consideration each year.

It is proposed that this will entail an initial site inspection and assessment by experienced design and construction staff.

The assessment would include consideration of the existing horizontal and vertical alignment of the road and whether the desired width of a two lane road can be achieved.

It would also include consideration of the depth and strength of the existing gravel or subgrade, presence of significant vegetation and road side hazards.

It is proposed that validation of projects proposed for funding in the first 2 years of the program of work be progressively undertaken over the next 12 months.

#### 6. Contributions

From time to time, Council is approached by private parties to either upgrade an unsealed road at their cost or to provide a contribution towards the cost of the upgrade.

In the first case, Council has agreed to this on a number of occasions, subject to the works being designed and constructed to current standards.

This is a similar process to a road being constructed as part of a development. It is considered that this practice should continue as opportunities arise. In the second case, it may be appropriate for Council to consider bringing the construction of a project forward as a result an external funding offer. Each application should be assessed on its merits and be subject to an investigation and report to Council, consistent with the relevant Shire policies.

#### 7. Design Standards

Roads must be designed to provide safe travel at an adopted design speed, taking into account the expected volume of traffic. Designs are often required and must be prepared in accordance with relevant engineering standards, such as Main Roads WA and Austroads Guide to Road Design specifications.

The upgrading and sealing of roads may increase the speed of vehicles due to the improved surfacing of the pavement and the removal of weather effects on gravel pavements such as scouring, corrugations etc. If the trafficable width, horizontal and vertical alignment of the road, and the roadside clear zones are not appropriate, this increase in vehicle speed may compromise the safety of road users.

#### 8. Unsealed Road Management

Unsealed roads are maintained in accordance with Council's typical procedures and budget allocations. Gravel re-sheeting to specific sections of road also occurs when programmed within annual budget allocations.

Properly formed and maintained, with appropriate levels of traffic, an unsealed road will perform well.

Dust nuisance to residences adjacent to unsealed roads does occur from time to time and is exacerbated in times of dry weather and by the volume and speed of passing traffic. Council has an ongoing interest in exploring possible alternative treatments that may improve dust suppression and the overall condition of unsealed roads. If such treatments are found to be successful in the future, it is anticipated that they could be utilised on roads which are not ranked as high priorities for upgrading.

Unless a private contribution is obtained, Council does not consider it appropriate to seal short lengths of unsealed roads adjacent to residences to reduce dust nuisance for the following reasons;

- · there are a large number of such locations across the Shire
- it is inefficient to undertake upgrading of short sections of roads

- the practice does not accord with the prioritisation process which has been developed
- undertaking such works would reduce the available funding for upgrading of higher priority roads

#### 9. Unformed Roads

There is increasing pressure from the community to include some unformed roads in Council's road network. These are roads which Council has not previously accepted responsibility for maintenance, due to the low standard of their construction.

Generally these unformed roads provide access to one or two properties only and are essentially farm tracks.

Many of these unformed roads traverse steep or low lying areas with little or inadequate drainage structures and are usually formed of low strength local materials.

Acceptance of unformed roads into Council's road network will expose Council to the risk of significant expenditure to bring them up to a reasonable standard which can be maintained.

#### 10. Unsealed Road Program of Works

An indicative program of works for the upgrading of unsealed roads has been developed on the basis of an annual funding allocation of up to \$250,000 which would enable approximately 1kms of road to be upgraded. The program has been developed using the assessment and prioritisation process on sections of gravel roads. A copy of the program is attached as Appendix 2.

The program has been developed on the basis of sections of roads which have been assessed and prioritised to date. These sections total approximately xxkm of the total 390km of unsealed roads.

Due to funding limitations, it may take many years to complete the upgrading of an unsealed road and may result in the entire length of road not being included in the program of works.

Whilst it is considered that the majority of the potential higher priority roads have been included, it is likely that some roads of a high priority will be identified as the assessment of the remainder of the unsealed roads progresses as requests are received.

Each year the priority list of unsealed roads will be reviewed and the indicative program of works amended. The first year of the program will be submitted annually for adoption by Council and the following years are indicative only and subject to change.

#### Acknowledgements

The Shire of Donnybrook Balingup (the Shire) wishes to thank the Sunshine Cost Council for allowing the Shire to utilise the "Sunshine Coast Council Unsealed Roads Upgrade Plan" to assist with the development of this document.

The Shire wishes to thank all contributors and stakeholders involved in the development of this document.

Appendix 1

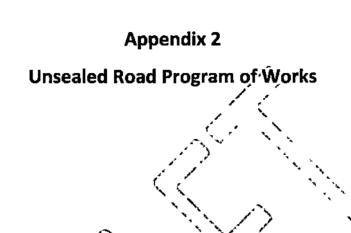
#### **Prioritisation Model**

<u>Criteria</u>	Score	Description	Weighting	
		5	>125	
Traffic Volumes	4	100-125	Walling to the state of	
How many vehicles per day utilise the	3	75-100	15	
section of road? (Measured via automatic traffic counters)	2	50-75	15	
automatic traffic counters/	1	25-50		
	0	<25		
School Bus Routes	5	Yes		
Is this section of road on a school bus route?	0	No	10	
	5	>8		
Crash History (Last 5 Years)	4	7-8		
How many reported crashes have	3	5-6		
occurred on this section of road in the last 5 years? (Obtained from MRWA Crash Analysis Reporting System)	2	3-4	15	
	1	1-2		
	0	0		

	5	Through road, 2 or more tourist attractions or facilities	
Strategic Significance  What is the strategic significance of this section of road and does the section of road link to tourist attractions or facilities?	4	Through road, 1 tourist attractions or facilities	
	3	Through road, no tourist attractions or facilities	
	2	No through road, 2 or more tourist attractions or facilities	15
	1	No through road, 1 tourist attraction or facilities	
	0	No through road	
	5	Good horizontal and vertical alignment and >6m width	
Existing Road Geometry  What is the existing geometry	4	Poor horizontal or vertical alignment and >6m width	
	3	Good horizontal and vertical alignment and 5-6m width	10
characteristics of this section of road?	2	Poor horizontal or vertical alignment and 5-6m width	10
	1	Good horizontal and vertical alignment and <5m width	
	0	Poor horizontal or vertical alignment and <5m width	
	5	None	
	4	Minor Vegetation Removal (<25% of the length of road requires vegetation removal)	
Environmental Impact	3		
What is the environmental impact of upgrading this section of road?	2	Moderate Vegetation Removal (25-50% of the length of road requires vegetation removal)	15
	1		
	0	Extensive Vegetation Removal (>50% of the length of road requires vegetation removal)	

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	5	Links 2 or more existing sealed roads and on the RAV Network	
Network Significance	4	Links 2 or more existing sealed roads	
Does this section of road provide network connectivity to other roads and	3	Extends the existing sealed network and on the RAV Network	10
is the section of road on the RAV Network?	2	Extends the existing sealed network	
	1	Isolated sealed road and on the RAV Network	
	0	Isolated sealed road	
	5	>11	
Residential Dwellings and Commercial Businesses	4	7-10	
How many residential dwellings and	3	4-6	10
ommercial businesses are on this section	2	1-3	
of road?	1	0	

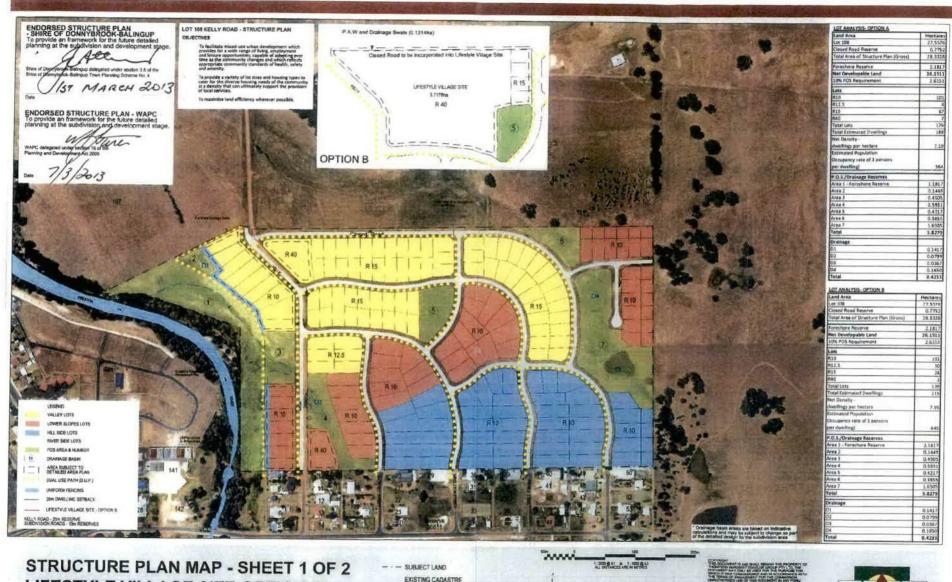




## **ATTACHMENT 9.3.2**

#### Village Green Public Toilets





LIFESTYLE VILLAGE SITE-OPTION B **LOT 108 KELLY ROAD** DONNYBROOK

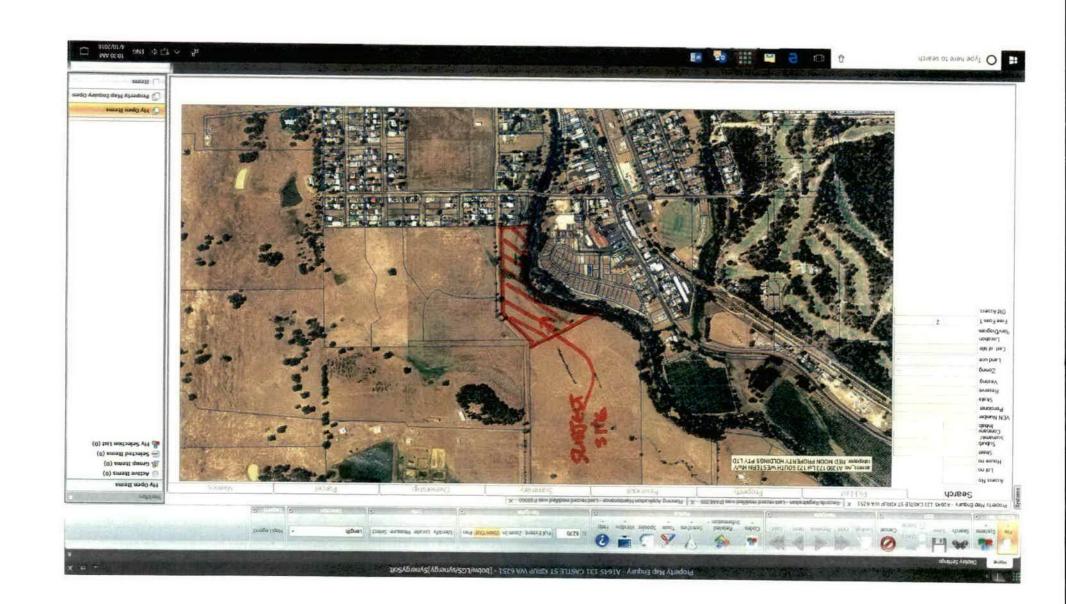
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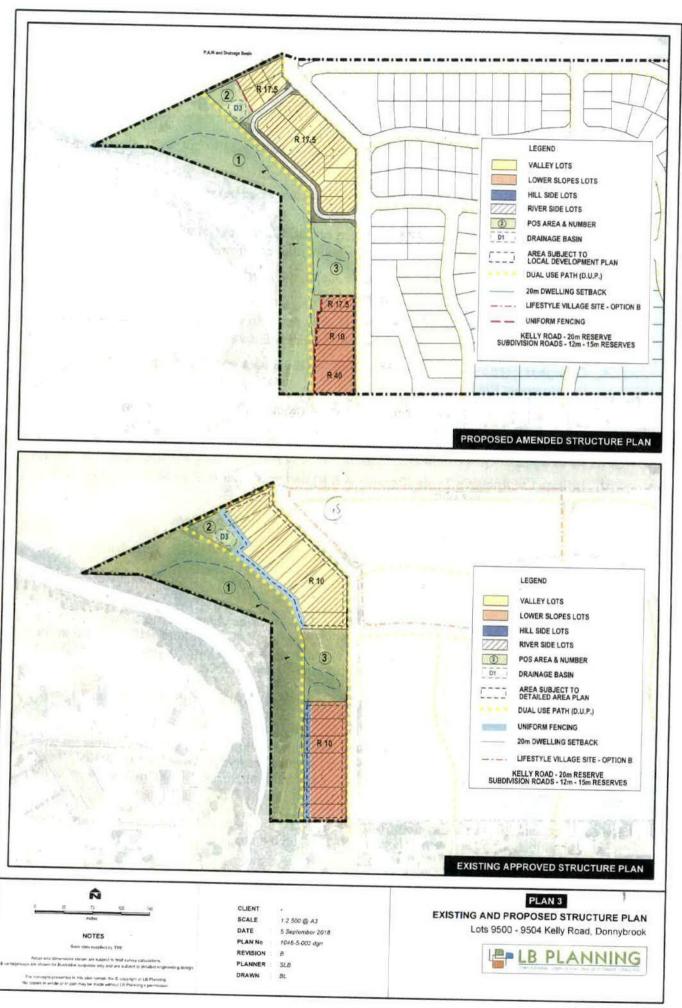


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# ATTACHMENT 9.4.1(5)

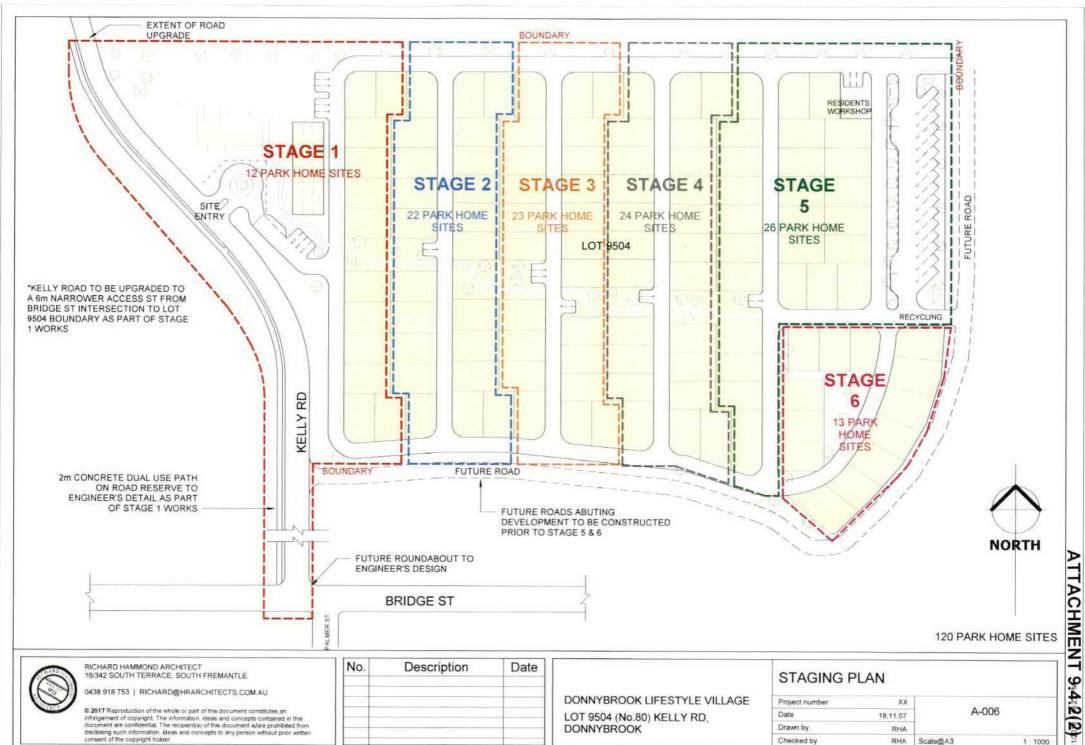
#### SCHEDULE OF SUBMISSIONS - AMENDMENT 2 TO LOT 108 KELLY ROAD, DONNYBROOK STRUCTURE PLAN

**Government Agency Responses:** 

No.	Name and Address	Description of Affected Property	Summary of Submission	Comments	Council's Recommendation
1	Water Corporation	n/a	The proposed changes are minor and do not impact on the Corporations infrastructure planning for the area	Note	Note
			There is currently no wastewater infrastructure (pump stations or gravity sewers) to the east of the river. It will be necessary for the developer to connect and install services.	Agree. Future lots will be required to connect to residential services such as water and sewer. This is consistent with the intent of the structure plan	Agree
2	Department of Water and Environmental Protection	n/a	The proposal results in an increase in lot density and an additional road that separates the residential lots from public open space.	Note	Note
			The proposed amendment is minor as it does not alter the indicative lot yield by more than 10%.	Note	Note
			There is an interim foreshore management plan which is yet to be finalised.	Note. This will need to be finalised at the subdivision stage prior to the creation of new lots.	Note
			The potential risks are:  • Potential conflict between finalised foreshore management plan and bush fire management plan;	Agree. This will need to be finalised at the subdivision stage prior to the creation of new lots	Agee
			Increased volumes of stormwater runoff from an increase in	Agree. As above.	Agree

			impervious surfaces form additional road and increased density.  Options to mitigate risk are:  Development to be consistent with Local Water Management Strategy;  Shire satisfy itself that the capacity of the infrastructure and POS can adequately convey the increase stormwater flows and volumes;  Stormwater be managed with the Stormwater Management Manual for Western Australia (DoW 2004-	Agree. This will require resolution at the subdivision stage prior to the creation of new lots. Agree. As above.  Agree. As above.	Agree Agree Agree
			<ul> <li>2007);</li> <li>The interim Foreshore Management Plan (June 2011) should be reviewed and finalised concurrently with the Bushfire Management Plan to ensure that there is no conflict;</li> <li>Ensuring sufficient separation to infrastructure and residential development to groundwater.</li> </ul>	Agree. As above.  Agree. As above	Agree
3	Department of Primary Industries and Regional Development	n/a	Does not object to the proposed amendment a this area has been previously identified for a similar purpose.	Note	Note





9.4.2(2)

1:1000



STRUCTURE PLAN MAP - SHEET 1 OF 2 LIFESTYLE VILLAGE SITE **LOT 108 KELLY ROAD** DONNYBROOK

- EXISTING CADASTRE

---- PROPOSED CADASTRE

- CONTOURS



1	ALL ENTRACES ARE	MARTINES	
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PENSION	DESCRIPTION	DRAFTER	bute

DESCRIPTION OF THE CORNER	Q1,
ORIGINA DRAFTER	MIL
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CASASTRAL CASA:	NSA
SOFCHIMPHEORIE	



#### SCHEDULE OF SUBMISSIONS - LIFESTYLE VILLAGE LOT 9504 KELLY ROAD, DONNYBROOK

**Government Agency Responses:** 

No.	Name and Address	Description of Affected Property	Summary of Submission	Comments	Council's Recommendation
1	Department of Primary Industries and Regional Development	n/a	Advises that has no objections subject to the planned landscaped drainage swale along the northern boundary being vegetated with plants that vary in height as to allow for a buffer between the lifestyle village and agricultural land	Agree. A condition has been imposed to require the preparation of a landscape master plan. The requirement is reasonable.	Agree
2	Department of Water and Environmental Regulation	n/a	No objections and advises that the following points need to be considered:  The Shire needs to satisfy itself of the capacity of the infrastructure, in particular the northern drainage corridor to adequately convey stormwater flows	Agree. Conditions addressing this requirement are proposed.	Agree
			Need to manage stormwater in accordance with the decision process for stormwater management in WA and the Stormwater Management Manual for Western Australia	Agree. As above.	Agree
			The proposed development should be consistent with the principles of the endorsed Local Water Management Strategy.	Agree. As above.	Agree
			A maintenance plan should be in place to ensure the long term function (survival of vegetation) of the rain gardens, swales and bio-retention basins.	Agree. As above.	Agree

