ANNEXURE J: IMPACT AND RISK ASSESSMENT FOR EACH ALTERNATIVE

Environmental impact assessment matrix

Project:	Welmoed Village development on Portion 28 of Farm Welmoed Estate No. 468, Stellenbosch	**Authority ref.:**	16/3/3/6/7/1/B4/45/1247/23
EAP:	Dupré Lombaard	**Date:**	22 May 2024
EAP registration:	2019/304		

Probability	None	Unlikely	Low	Medium	High	Unknown
	0	1	2	3	4	5
Extent	Footprint	Site	Local	Regional	National	Unknown
	0	1	2	3	4	5
Consequences	None	Minor	Low	Medium	High	Very high
	0	1	2	3	4	5
Duration	None	Immediate	Short term	Medium term	Long term	Permanent
	0	1	2	3	4	5

Significance rating	SR=(E+C+D)xP
Low (L)	< 12
Medium (M)	13-27
High (H)	28-48
Very high (VH)	49 <

Environmental impact assessment matrix

Project:	Welmoed Village development on Portion 28 of Farm Welmoed Estate No. 468, Stellenbosch	**Authority ref.:**	16/3/3/6/7/1/B4/45/1247/23
EAP:	Dupré Lombaard	**Date:**	22 May 2024
EAP registration:	2019/304		

Potential impact	**Preferred alternative (Master plan development)**	**Environmental significance: Pre mitigation**						**Mitigation / Comment**	**Environmental significance: Post mitigation**					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1. Construction phase														
1.1 Nuisance impacts	Dust and noise during construction.	2	3	3	4	32	H		2	3	2	4	28	H
· Nature of impact	Earthmoving and construction activities will cause noise, and dust.													
· Extent	Local, with abutting properties potentially affected.	2	3	3	4	20	H	Best practice EMPr provisions might limit the negative effects.	2	3	2	4	18	H
· Duration	Duration of project (medium term).	2	3	3	4	20	H	Best practice EMPr provisions might limit the negative effects.	2	3	2	4	18	H
· Consequence	Neighbours disturbed by noise. Dust potentially damaging crops on adjacent properties and dirtying houses.	2	3	3	4	20	H	Best practice EMPr provisions might limit the negative effects.	2	3	2	4	18	H
· Probability	Heavy construction equipment will cause noise and dust will be generated by all vehicle movement on soil cleared of vegetation.	2	3	3	4	20	H	Best practice EMPr provisions might limit the negative effects.	2	3	2	4	18	H
· Reversibility	The effects of dust are reversible by washing. Noise effects reverse with cessation.													
· Irreplaceable loss of resources	No resources would be lost as a result.													
· Avoidance	Effects are unavoidable. Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Limit construction times and movement of vehicles on bare untreated soil.							Best practice EMPr provisions might limit the negative effects.						
· Residual impact	None.													
· Significance rating	H													
1.2 Resource loss	Removal of vineyards and agricultural activity.	3	4	1	2	21	M		3	1	1	2	12	L
· Nature of impact	Loss of wine production and land for alternative crops.													
· Extent	The agricultural production has regional effects due to it being linked to other services and service providers.	3	4	1	2	21	M		3	1	1	2	12	L
· Duration	Replacement of vineyards with urban settlement will be permanent.	3	4	1	2	21	M		3	1	1	2	12	L
· Consequence	29ha of low potential vineyards exchanged for 884 dwelling units for which a demand exists.	3	4	1	2	21	M		3	1	1	2	12	L
· Probability	Any settlement development will cause loss of vineyards which are unproductive and replaced by needed residential dwellings.	3	4	1	2	21	M		3	1	1	2	12	L
· Reversibility	Wine production is expanding to new regions as a result of climate change and cultivar adaptation. Locally irreversible but with limited negative effect.													
· Irreplaceable loss of resources	Loss of wine production capacity has limited negative effect.													
· Avoidance	Effects could be mitigated through refusal of urban development but retention of vineyards and agricultural production not guaranteed.													
· Management	Allow best use of land for urban development to reduce demand elsewhere in same area.													
· Mitigation	Support agricultural production elsewhere and cause highest possible density and intensity of development to occur to reduce demand for urban land use elsewhere.							Best practicable environmental option is to maximise the use of the land and the municipal services infrastructure to minimise land demand elsewhere.						
· Residual impact	Urban development.													
· Significance rating	M													

1.3 Traffic impacts	Movement of construction vehicles.	2	2	2	2	12	L		2	2	1	2	10	L
· Nature of impact	Construction vehicles using roads could disrupt traffic and pedestrian movement in surrounding area and around station.													
· Extent	Extent will differ depending on the phase of development, e.g., external services, road upgrading, internal services.	2	2	2	2	12	L		2	2	1	2	10	L
· Duration	Every new development phase will have short term effects during construction.	2	2	2	2	12	L		2	2	1	2	10	L
· Consequence	Traffic congestion or disruptions might occur and risk to pedestrians.	2	2	2	2	12	L		2	2	1	2	10	L
· Probability	It is unlikely that the surrounding farms will suffer negative effects but construction traffic will affect Lynedoch residents.	2	2	2	2	12	L		2	2	1	2	10	L
· Reversibility	The effects are immediately reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Set times for movement of vehicles.													
· Residual impact	None.													
· Significance rating	L													
1.4 Socio-economic impacts	Employment creation, influx of labourers, security of existing residents, and changing living patterns.	2	2	2	2	12	L		2	2	2	2	12	L
· Nature of impact	The construction will create new employment opportunities and benefit job seekers. Continuous influx of job seekers is however always perceived as a risk due to increased crime levels during construction periods.													
· Extent	The effects will be positive and negative locally.	2	2	2	2	12	L		2	2	2	2	12	L
· Duration	Medium term positive and negative effects during construction.	2	2	2	2	12	L		2	2	2	2	12	L
· Consequence	The potential positive socio-economic effects will improve the livelihoods of some citizens, while local residents will feel threatened during the construction periods.	2	2	2	2	12	L		2	2	2	2	12	L
· Probability	It is likely that the effects will occur.	2	2	2	2	12	L		2	2	2	2	12	L
· Reversibility	The effects are reversible as they cease when construction ceases.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.													
· Management	Mitigation measures are required in the EMPr.													
· Mitigation	Establish a labour and security (risk avoidance) plan.													
· Residual impact	None.													
· Significance rating	L													
1.5 Bio-physical environmental impacts	Loss of habitat for fauna adapted to the agricultural environment.	1	3	2	2	12	L		1	2	1	2	8	L
· Nature of impact	The construction activities and change in use of the buildings could cause loss of habitat to birds, rodents and reptiles which have adapted to the vineyards.													
· Extent	Effects will be on the site only.	1	3	2	2	7	L		1	2	1	2	5	L
· Duration	Medium term effects during construction and development.	1	3	2	2	7	L		1	2	1	2	5	L
· Consequence	The potential negative effects will be minimised by the introduction of landscape networks aimed at improving biodiversity.	1	3	2	2	7	L		1	2	1	2	5	L
· Probability	It is unlikely that the bio-physical environment will suffer enduring negative effects as a result of construction.	1	3	2	2	7	L		1	2	1	2	5	L
· Reversibility	The effects are reversible by the creation of specific biodiversity attributes.													
· Irreplaceable loss of resources	Loss of mono-culture environment is unavoidable, and a new more biodiverse environment can be created through landscape networks.													
· Avoidance	Avoidance of negative effects during construction is not possible.													
· Management	Mitigation measures are required in an Operational Phase EMPr.													
· Mitigation	No mitigation is required during the construction phase.													
· Residual impact	None.													
· Significance rating	L													

1.6 Surface water resources	No on-site surface water resources exist or are affected. The external services for the development cross streams and there are water bodies within 500m of the site.	1	2	1	1	4	L		1	2	1	1	4	L
· Nature of impact	Construction activities could damage stream banks, bottoms, and ecosystems, or lead to runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised due to the nature of the environment, with potential only for minor sediment transport downstream in one water course (crossed by potable water pipeline).	1	2	1	1	4	L		1	2	1	1	4	L
· Duration	Medium term effects during construction.	1	2	1	1	4	L		1	2	1	1	4	L
· Consequence	The potential negative effects are minor as reported by specialist.	1	2	1	1	4	L		1	2	1	1	4	L
· Probability	Negative effects are unlikely if construction is managed.	1	2	1	1	4	L		1	2	1	1	4	L
· Reversibility	Negative effects of construction are partially reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated.													
· Management	Specific mitigation measures provided by specialist to be included in EMPr.													
· Mitigation	Construction through streams to occur during dry summer months and natural vegetation disturbance to be minimised.													
· Residual impact	None.													
· Significance rating	L													
1.7 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	2	2	2	12	L		1	2	1	1	4	L
· Nature of impact	Construction activities could disturb the surface and increase runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	2	2	2	12	L		1	2	1	1	4	L
· Duration	Medium term effects during construction.	2	2	2	2	12	L		1	2	1	1	4	L
· Consequence	The potential negative effects should be minor as reported by specialist.	2	2	2	2	12	L		1	2	1	1	4	L
· Probability	Negative effects are unlikely if construction is managed.	2	2	2	2	12	L		1	2	1	1	4	L
· Reversibility	Negative effects of sediment transport and pollution might not be reversible.													
· Irreplaceable loss of resources	Significant pollution could cause resource loss.													
· Avoidance	Potential negative effects can be mitigated.													
· Management	Mitigation measures provided by specialist and best practice to be included in EMPr.													
· Mitigation	Construction management and early creation of storm water systems.													
· Residual impact	None.													
· Significance rating	L													

2. Operational phase

2.1 Change in social environment	Small interactive community in Lynedoch and surrounding area will significantly increase and become urbanised.	2	4	3	4	36	H		2	3	2	4	28	H	
· Nature of impact	Change in the community dynamics and management.														
· Extent	Changes will only affect Lynedoch and the immediate surrounding agricultural community.	2	4	3	4	22	H		2	3	2	4	18	H	
· Duration	Change will be permanent.	2	4	3	4	22	H		2	3	2	4	18	H	
· Consequence	Urban settlement and increased population will lead to loss of social cohesion.	2	4	3	4	22	H		2	3	2	4	18	H	
· Probability	The larger community will not have the same dynamic as the existing small village.	2	4	3	4	22	H		2	3	2	4	18	H	
· Reversibility	The effects are irreversible.														
· Irreplaceable loss of resources	None.														
· Avoidance	Effects can be mitigated but not avoided.														
· Management	A property owners' association (POA) could be implemented to mitigate potential effects.														
· Mitigation	Establish a management body and POA.														
· Residual impact	Less control over built environment, resource use, and security.														
· Significance rating	M														
2.2 Traffic impacts	Additional traffic on Vlottenburg service road and around Lynedoch Village.	2	4	3	4	36	H		2	2	2	3	18	M	
· Nature of impact	Traffic congestion and increased pedestrian movement in surrounding area.														
· Extent	Vlottenburg service road up to intersections with Vlaeberg and Vlottenburg Road, i.e., Baden Powell connections.	2	4	3	4	22	H		2	2	2	3	14	M	
· Duration	Long term effect with gradual increase as settlement occurs.	2	4	3	4	22	H		2	2	2	3	14	M	
· Consequence	Traffic congestion or disruptions and risk to pedestrians.	2	4	3	4	22	H		2	2	2	3	14	M	
· Probability	All properties with access off Vlottenburg service road will experience negative effects.	2	4	3	4	22	H		2	2	2	3	14	M	
· Reversibility	The effects are reversible.														
· Irreplaceable loss of resources	None.														
· Avoidance	None.														
· Management	Road traffic management processes.														
· Mitigation	Effects can be mitigated through appropriate road upgrading and establishment of a public transport system.														
· Residual impact	Higher levels of traffic.														
· Significance rating	H														
2.3 Socio-economic impacts	Creation of opportunities for employment and business, also changing living patterns of existing residents.	3	4	3	3	30	H		3	4	3	3	30	H	
· Nature of impact	The development will create new economic opportunities and benefit the larger community. Threshold population established for various services.														
· Extent	The effects will be positive for a larger community and negative only locally.	3	4	3	3	30	H		3	4	3	3	30	H	
· Duration	Medium term positive and negative effects during construction.	3	4	3	3	30	H		3	4	3	3	30	H	
· Consequence	Positive socio-economic effects for larger community, while local residents will feel negative effects.	3	4	3	3	30	H		3	4	3	3	30	H	
· Probability	It is likely that the effects will occur.	3	4	3	3	30	H		3	4	3	3	30	H	
· Reversibility	The negative effects are reversible over time with residents benefitting from additional services.														
· Irreplaceable loss of resources	None.														
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.														
· Management	Services need to be provided by developer.														
· Mitigation	Developer needs to provide opportunities and services.														
· Residual impact	Economic and social opportunities for residents.														
· Significance rating	H														

2.4 Settlement impacts	Provision of housing in high demand.	3	4	4	3	33	H		3	4	4	3	33	H	
· Nature of impact	High demand for housing in Stellenbosch over range of market categories.														
· Extent	Additional housing in affordable categories will benefit citizens currently residing in wider region.	3	4	4	3	33	H		3	4	4	3	33	H	
· Duration	Long term positive effects.	3	4	4	3	33	H		3	4	4	3	33	H	
· Consequence	The positive effects of housing in proximity of place of demand include indirect effects such as reduced traffic movement, and benefits to local businesses.	3	4	4	3	33	H		3	4	4	3	33	H	
· Probability	Housing in a wide range in the affordable categories is likely according to the application.	3	4	4	3	33	H		3	4	4	3	33	H	
· Reversibility	The positive effects are not reversible.														
· Irreplaceable loss of resources	None.														
· Avoidance	Positive effects need not be mitigated.														
· Management	Inclusionary housing in terms of the Stellenbosch policy must be a condition of the development.														
· Mitigation	None required.														
· Residual impact	Improved housing supply for growing population.														
· Significance rating	H														
2.5 Visual impact	Built environment will change agricultural character of area.	2	4	3	4	36	H		1	3	2	3	18	M	
· Nature of impact	The visual experience of the area will change with vineyards being replaced by an urban settlement.														
· Extent	Site is visible only from certain places in the surrounding area.	2	4	3	4	22	H		1	3	2	3	8	M	
· Duration	Long term effects albeit that change is accepted over time.	2	4	3	4	22	H		1	3	2	3	8	M	
· Consequence	The effect is to the experience of the sense of place for citizens who have known the area for a long time.	2	4	3	4	22	H		1	3	2	3	8	M	
· Probability	The change in character is definite, but the negativity of the effect might not be significant.	2	4	3	4	22	H		1	3	2	3	8	M	
· Reversibility	The change is not reversible.														
· Irreplaceable loss of resources	The rural character will be lost.														
· Avoidance	Effect cannot be avoided.														
· Management	Mitigation measures required in EMPr.														
· Mitigation	Recommendations of the visual impact assessment to be introduced, e.g., placement of buildings, landscaping, nature of the development.														
· Residual impact	Loss of rural character of node.														
· Significance rating	H														
2.6 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	4	2	3	24	M		1	2	2	2	10	L	
· Nature of impact	Development increases the surface runoff and decreases the quality thereof that could impact nearby waterbodies.														
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	4	2	3	18	M		1	2	2	2	6	L	
· Duration	Long term effects.	2	4	2	3	18	M		1	2	2	2	6	L	
· Consequence	The adjacent freshwater habitats could be degraded if effects are not avoided.	2	4	2	3	18	M		1	2	2	2	6	L	
· Probability	Negative effects are likely if run-off is not managed.	2	4	2	3	18	M		1	2	2	2	6	L	
· Reversibility	Negative effects of enduring pollution might not be reversible.														
· Irreplaceable loss of resources	Enduring pollution will cause resource loss.														
· Avoidance	Potential negative effects can be mitigated.														
· Management	Mitigation measures provided in storm water management plan and best practice to be included in EMPr.														
· Mitigation	Construction and management of storm water systems.														
· Residual impact	Storm water ponds on site to be managed.														
· Significance rating	M														

Environmental impact assessment matrix

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EAP:	Dupré Lombaard	**Date:**	22 May 2024
EAP registration:	2019/304		

Potential impact	**No-Go alternative (agriculture)**	**Environmental significance: Pre mitigation**						**Mitigation / Comment**	**Environmental significance: Post mitigation**					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1. Construction phase														
1.1 Nuisance impacts	Dust and noise during construction.	2	4	3	4	36	H		0	0	0	0	0	N/a
· Nature of impact	Earthmoving and construction activities will cause noise, and dust.													
· Extent	Local, with abutting properties potentially affected.	2	4	3	4	22	H		0	0	0	0	0	N/a
· Duration	Duration of project (medium term).	2	4	3	4	22	H		0	0	0	0	0	N/a
· Consequence	Neighbours disturbed by noise. Dust potentially damaging crops on adjacent properties and dirtying houses.	2	4	3	4	22	H		0	0	0	0	0	N/a
· Probability	Heavy construction equipment will cause noise and dust will be generated by all vehicle movement on soil cleared of vegetation.	2	4	3	4	22	H		0	0	0	0	0	N/a
· Reversibility	The effects of dust are reversible by washing. Noise effects reverse with cessation.													
· Irreplaceable loss of resources	No resources would be lost as a result.													
· Avoidance	Effects are unavoidable. Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Limit construction times and movement of vehicles on bare untreated soil.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	H													
1.2 Resource loss	Removal of vineyards and agricultural activity.	0	0	0	0	0	L		0	0	0	0	0	L
· Nature of impact	Loss of wine production and land for alternative crops.													
· Extent	The agricultural production has regional effects due to it being linked to other services and service providers.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Replacement of vineyards with urban settlement will be permanent.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	29ha of low potential vineyards exchanged for 884 dwelling units for which a demand exists.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	Any settlement development will cause loss of vineyards which are unproductive and replaced by needed residential dwellings.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	Wine production is expanding to new regions as a result of climate change and cultivar adaptation. Locally irreversible but with limited negative effect.													
· Irreplaceable loss of resources	Loss of wine production capacity has limited negative effect.													
· Avoidance	Effects could be mitigated through refusal of urban development but retention of vineyards and agricultural production not guaranteed.													
· Management	Allow best use of land for urban development to reduce demand elsewhere in same area.													
· Mitigation	Support agricultural production elsewhere and cause highest possible density and intensity of development to occur to reduce demand for urban land use elsewhere.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Urban development.													
· Significance rating	M													

Potential impact	**No-Go alternative (agriculture)**	**Environmental significance: Pre mitigation**						**Mitigation / Comment**	**Environmental significance: Post mitigation**					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1.3 Traffic impacts	Movement of construction vehicles.	0	0	0	0	0	L		0	0	0	0	0	L
· Nature of impact	Construction vehicles using roads could disrupt traffic and pedestrian movement in surrounding area and around station.													
· Extent	Extent will differ depending on the phase of development, e.g., external services, road upgrading, internal services.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Every new development phase will have short term effects during construction.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	Traffic congestion or disruptions might occur and risk to pedestrians.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	It is unlikely that the surrounding farms will suffer negative effects but construction traffic will affect Lynedoch residents.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The effects are immediately reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Set times for movement of vehicles.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	L													
1.4 Socio-economic impacts	Employment creation, influx of labourers, security of existing residents, and changing living patterns.	0	0	0	0	0	L		0	0	0	0	0	L
· Nature of impact	The construction will create new employment opportunities and benefit job seekers. Continuous influx of job seekers is however always perceived as a risk due to increased crime levels during construction periods.													
· Extent	The effects will be positive and negative locally.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Medium term positive and negative effects during construction.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	The potential positive socio-economic effects will improve the livelihoods of some citizens, while local residents will feel threatened during the construction periods.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	It is likely that the effects will occur.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The effects are reversible as they cease when construction ceases.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.													
· Management	Mitigation measures are required in the EMPr.													
· Mitigation	Establish a labour and security (risk avoidance) plan.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	L													

Potential impact	No-Go alternative (agriculture)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1.5 Bio-physical environmental impacts	Loss of habitat for fauna adapted to the agricultural environment.	0	0	0	0	0	L		0	0	0	0	0	L
· Nature of impact	The construction activities and change in use of the buildings could cause loss of habitat to birds, rodents and reptiles which have adapted to the vineyards.													
· Extent	Effects will be on the site only.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Medium term effects during construction and development.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	The potential negative effects will be minimised by the introduction of landscape networks aimed at improving biodiversity.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	It is unlikely that the bio-physical environment will suffer enduring negative effects as a result of construction.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The effects are reversible by the creation of specific biodiversity attributes.													
· Irreplaceable loss of resources	Loss of mono-culture environment is unavoidable, and a new more biodiverse environment can be created through landscape networks.													
· Avoidance	Avoidance of negative effects during construction is not possible.													
· Management	Mitigation measures are required in an Operational Phase EMPr.													
· Mitigation	No mitigation is required during the construction phase.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	L													
1.6 Surface water resources	No on-site surface water resources exist or are affected. The external services for the development cross streams and there are water bodies within 500m of the site.	0	0	0	0	0	L		0	0	0	0	0	L
· Nature of impact	Construction activities could damage stream banks, bottoms, and ecosystems, or lead to runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised due to the nature of the environment, with potential only for minor sediment transport downstream in one water course (crossed by potable water pipeline).	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Medium term effects during construction.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	The potential negative effects are minor as reported by specialist.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	Negative effects are unlikely if construction is managed.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	Negative effects of construction are partially reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated.													
· Management	Specific mitigation measures provided by specialist to be included in EMPr.													
· Mitigation	Construction through streams to occur during dry summer months and natural vegetation disturbance to be minimised.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	L													
1.7 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	4	2	2	16	M		0	0	0	0	0	L
· Nature of impact	Construction activities could disturb the surface and increase runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Duration	Medium term effects during construction.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Consequence	The potential negative effects should be minor as reported by specialist.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Probability	Negative effects are unlikely if construction is managed.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Reversibility	Negative effects of sediment transport and pollution might not be reversible.													
· Irreplaceable loss of resources	Significant pollution could cause resource loss.													
· Avoidance	Potential negative effects can be mitigated.													
· Management	Mitigation measures provided by specialist and best practice to be included in EMPr.													
· Mitigation	Construction management and early creation of storm water systems.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	None.													
· Significance rating	L													

Potential impact	No-Go alternative (agriculture)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	Activity and significance threshold	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	Description													
2. Operational phase														
2.1 Change in social environment	Small interactive community in Lynedoch and surrounding area will significantly increase and become urbanised.	0	0	0	0	0	L		0	0	0	0	0	H
· Nature of impact	Change in the community dynamics and management.													
· Extent	Changes will only affect Lynedoch and the immediate surrounding agricultural community.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Change will be permanent.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	Urban settlement and increased population will lead to loss of social cohesion.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	The larger community will not have the same dynamic as the existing small village.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The effects are irreversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated but not avoided.													
· Management	A property owners' association (POA) could be implemented to mitigate potential effects.													
· Mitigation	Establish a management body and POA.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Less control over built environment, resource use, and security.													
· Significance rating	M													
2.2 Traffic impacts	Additional traffic on Vlottenburg service road and around Lynedoch Village.	0	0	0	0	0	L		0	0	0	0	0	M
· Nature of impact	Traffic congestion and increased pedestrian movement in surrounding area.													
· Extent	Vlottenburg service road up to intersections with Vlaeberg and Vlottenburg Road, i.e., Baden Powell connections.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Long term effect with gradual increase as settlement occurs.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	Traffic congestion or disruptions and risk to pedestrians.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	All properties with access off Vlottenburg service road will experience negative effects.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The effects are reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	None.													
· Management	Road traffic management processes.													
· Mitigation	Effects can be mitigated through appropriate road upgrading and establishment of a public transport system.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Higher levels of traffic.													
· Significance rating	H													
2.3 Socio-economic impacts	Creation of opportunities for employment and business, also changing living patterns of existing residents.	0	0	0	0	0	L		0	0	0	0	0	H
· Nature of impact	The development will create new economic opportunities and benefit the larger community. Threshold population established for various services.													
· Extent	The effects will be positive for a larger community and negative only locally.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Medium term positive and negative effects during construction.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	Positive socio-economic effects for larger community, while local residents will feel negative effects.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	It is likely that the effects will occur.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The negative effects are reversible over time with residents benefitting from additional services.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.													
· Management	Services need to be provided by developer.													
· Mitigation	Developer needs to provide opportunities and services.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Economic and social opportunities for residents.													
· Significance rating	H													

Potential impact	No-Go alternative (agriculture)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	Activity and significance threshold	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	Description													
2.4 Settlement impacts	Provision of housing in high demand.	0	0	0	0	0	L		0	0	0	0	0	H
· Nature of impact	High demand for housing in Stellenbosch over range of market categories.													
· Extent	Additional housing in affordable categories will benefit citizens currently residing in wider region.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Long term positive effects.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	The positive effects of housing in proximity of place of demand include indirect effects such as reduced traffic movement, and benefits to local businesses.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	Housing in a wide range in the affordable categories is likely according to the application.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The positive effects are not reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Positive effects need not be mitigated.													
· Management	Inclusionary housing in terms of the Stellenbosch policy must be a condition of the development.													
· Mitigation	None required.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Improved housing supply for growing population.													
· Significance rating	H													
2.5 Visual impact	Built environment will change agricultural character of area.	0	0	0	0	0	L		0	0	0	0	0	M
· Nature of impact	The visual experience of the area will change with vineyards being replaced by an urban settlement.													
· Extent	Site is visible only from certain places in the surrounding area.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Duration	Long term effects albeit that change is accepted over time.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Consequence	The effect is to the experience of the sense of place for citizens who have known the area for a long time.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Probability	The change in character is definite, but the negativity of the effect might not be significant.	0	0	0	0	0	L		0	0	0	0	0	N/a
· Reversibility	The change is not reversible.													
· Irreplaceable loss of resources	The rural character will be lost.													
· Avoidance	Effect cannot be avoided.													
· Management	Mitigation measures required in EMPr.													
· Mitigation	Recommendations of the visual impact assessment to be introduced, e.g., placement of buildings, landscaping, nature of the development.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Loss of rural character of node.													
· Significance rating	H													
2.6 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	4	2	2	16	M		0	0	0	0	0	L
· Nature of impact	Development increases the surface runoff and decreases the quality thereof that could impact nearby waterbodies.													
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Duration	Long term effects.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Consequence	The adjacent freshwater habitats could be degraded if effects are not avoided.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Probability	Negative effects are likely if run-off is not managed.	2	4	2	2	16	M		0	0	0	0	0	N/a
· Reversibility	Negative effects of enduring pollution might not be reversible.													
· Irreplaceable loss of resources	Enduring pollution will cause resource loss.													
· Avoidance	Potential negative effects can be mitigated.													
· Management	Mitigation measures provided in storm water management plan and best practice to be included in EMPr.													
· Mitigation	Construction and management of storm water systems.							No mitigation applicable, as agricultural activities existed before any other.						
· Residual impact	Storm water ponds on site to be managed.													
· Significance rating	M													

Environmental impact assessment matrix

Project:	Welmoed Village development on Portion 28 of Farm Welmoed Estate No. 468, Stellenbosch	**Authority ref.:**	16/3/3/6/7/1/B4/45/1247/23
EAP:	Dupré Lombaard	**Date:**	22 May 2024
EAP registration:	2019/304		

Potential impact	**SDF alternative (limited development)**	**Environmental significance: Pre mitigation**						**Mitigation / Comment**	**Environmental significance: Post mitigation**					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1. Construction phase														
1.1 Nuisance impacts	Dust and noise during construction.	2	2	3	4	28	H		2	2	2	4	24	M
· Nature of impact	Earthmoving and construction activities will cause noise, and dust.													
· Extent	Local, with abutting properties potentially affected.	2	2	3	4	18	H	Best practice EMPr provisions might limit the negative effects.	2	2	2	4	16	M
· Duration	Duration of project (medium term).	2	2	3	4	18	H	Best practice EMPr provisions might limit the negative effects.	2	2	2	4	16	M
· Consequence	Neighbours disturbed by noise. Dust potentially damaging crops on adjacent properties and dirtying houses.	2	2	3	4	18	H	Best practice EMPr provisions might limit the negative effects.	2	2	2	4	16	M
· Probability	Heavy construction equipment will cause noise and dust will be generated by all vehicle movement on soil cleared of vegetation.	2	2	3	4	18	H	Best practice EMPr provisions might limit the negative effects.	2	2	2	4	16	M
· Reversibility	The effects of dust are reversible by washing. Noise effects reverse with cessation.													
· Irreplaceable loss of resources	No resources would be lost as a result.													
· Avoidance	Effects are unavoidable. Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Limit construction times and movement of vehicles on bare untreated soil.							Best practice EMPr provisions might limit the negative effects.						
· Residual impact	None.													
· Significance rating	H													
1.2 Resource loss	Removal of vineyards and agricultural activity.	2	4	1	2	14	M		3	1	1	2	12	L
· Nature of impact	Loss of wine production and land for alternative crops.													
· Extent	The agricultural production has regional effects due to it being linked to other services and service providers.	2	4	1	2	14	M		3	1	1	2	12	L
· Duration	Replacement of vineyards with urban settlement will be permanent.	2	4	1	2	14	M		3	1	1	2	12	L
· Consequence	29ha of low potential vineyards exchanged for 884 dwelling units for which a demand exists.	2	4	1	2	14	M		3	1	1	2	12	L
· Probability	Any settlement development will cause loss of vineyards which are unproductive and replaced by needed residential dwellings.	2	4	1	2	14	M		3	1	1	2	12	L
· Reversibility	Wine production is expanding to new regions as a result of climate change and cultivar adaptation. Locally irreversible but with limited negative effect.													
· Irreplaceable loss of resources	Loss of wine production capacity has limited negative effect.													
· Avoidance	Effects could be mitigated through refusal of urban development but retention of vineyards and agricultural production not guaranteed.													
· Management	Allow best use of land for urban development to reduce demand elsewhere in same area.													
· Mitigation	Support agricultural production elsewhere and cause highest possible density and intensity of development to occur to reduce demand for urban land use elsewhere.							Best practicable environmental option is to maximise the use of the land and the municipal services infrastructure to minimise land demand elsewhere.						
· Residual impact	Urban development.													
· Significance rating	M													

Potential impact	SDF alternative (limited development)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
1.3 Traffic impacts	Movement of construction vehicles.	2	2	2	2	12	L		2	2	1	2	10	L
· Nature of impact	Construction vehicles using roads could disrupt traffic and pedestrian movement in surrounding area and around station.													
· Extent	Extent will differ depending on the phase of development, e.g., external services, road upgrading, internal services.	2	2	2	2	12	L		2	2	1	2	10	L
· Duration	Every new development phase will have short term effects during construction.	2	2	2	2	12	L		2	2	1	2	10	L
· Consequence	Traffic congestion or disruptions might occur and risk to pedestrians.	2	2	2	2	12	L		2	2	1	2	10	L
· Probability	It is unlikely that the surrounding farms will suffer negative effects but construction traffic will affect Lynedoch residents.	2	2	2	2	12	L		2	2	1	2	10	L
· Reversibility	The effects are immediately reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated through implementation of an EMPr.													
· Management	EMPr to address potential effects.													
· Mitigation	Set times for movement of vehicles.													
· Residual impact	None.													
· Significance rating	L													
1.4 Socio-economic impacts	Employment creation, influx of labourers, security of existing residents, and changing living patterns.	2	2	2	2	12	L		2	2	2	2	12	L
· Nature of impact	The construction will create new employment opportunities and benefit job seekers. Continuous influx of job seekers is however always perceived as a risk due to increased crime levels during construction periods.													
· Extent	The effects will be positive and negative locally.	2	2	2	2	12	L		2	2	2	2	12	L
· Duration	Medium term positive and negative effects during construction.	2	2	2	2	12	L		2	2	2	2	12	L
· Consequence	The potential positive socio-economic effects will improve the livelihoods of some citizens, while local residents will feel threatened during the construction periods.	2	2	2	2	12	L		2	2	2	2	12	L
· Probability	It is likely that the effects will occur.	2	2	2	2	12	L		2	2	2	2	12	L
· Reversibility	The effects are reversible as they cease when construction ceases.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.													
· Management	Mitigation measures are required in the EMPr.													
· Mitigation	Establish a labour and security (risk avoidance) plan.													
· Residual impact	None.													
· Significance rating	L													

Potential impact	SDF alternative (limited development)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	Activity and significance threshold	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	Description													
1.5 Bio-physical environmental impacts	Loss of habitat for fauna adapted to the agricultural environment.	1	3	2	2	12	L		1	2	1	2	8	L
· Nature of impact	The construction activities and change in use of the buildings could cause loss of habitat to birds, rodents and reptiles which have adapted to the vineyards.													
· Extent	Effects will be on the site only.	1	3	2	2	7	L		1	2	1	2	5	L
· Duration	Medium term effects during construction and development.	1	3	2	2	7	L		1	2	1	2	5	L
· Consequence	The potential negative effects will be minimised by the introduction of landscape networks aimed at improving biodiversity.	1	3	2	2	7	L		1	2	1	2	5	L
· Probability	It is unlikely that the bio-physical environment will suffer enduring negative effects as a result of construction.	1	3	2	2	7	L		1	2	1	2	5	L
· Reversibility	The effects are reversible by the creation of specific biodiversity attributes.													
· Irreplaceable loss of resources	Loss of mono-culture environment is unavoidable, and a new more biodiverse environment can be created through landscape networks.													
· Avoidance	Avoidance of negative effects during construction is not possible.													
· Management	Mitigation measures are required in an Operational Phase EMPr.													
· Mitigation	No mitigation is required during the construction phase.													
· Residual impact	None.													
· Significance rating	L													
1.6 Surface water resources	No on-site surface water resources exist or are affected. The external services for the development cross streams and there are water bodies within 500m of the site.	1	2	1	1	4	L		1	2	1	1	4	L
· Nature of impact	Construction activities could damage stream banks, bottoms, and ecosystems, or lead to runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised due to the nature of the environment, with potential only for minor sediment transport downstream in one water course (crossed by potable water pipeline).	1	2	1	1	4	L		1	2	1	1	4	L
· Duration	Medium term effects during construction.	1	2	1	1	4	L		1	2	1	1	4	L
· Consequence	The potential negative effects are minor as reported by specialist.	1	2	1	1	4	L		1	2	1	1	4	L
· Probability	Negative effects are unlikely if construction is managed.	1	2	1	1	4	L		1	2	1	1	4	L
· Reversibility	Negative effects of construction are partially reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated.													
· Management	Specific mitigation measures provided by specialist to be included in EMPr.													
· Mitigation	Construction through streams to occur during dry summer months and natural vegetation disturbance to be minimised.													
· Residual impact	None.													
· Significance rating	L													
1.7 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	2	2	2	12	L		1	2	1	1	4	L
· Nature of impact	Construction activities could disturb the surface and increase runoff that could impact nearby waterbodies.													
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	2	2	2	12	L		1	2	1	1	4	L
· Duration	Medium term effects during construction.	2	2	2	2	12	L		1	2	1	1	4	L
· Consequence	The potential negative effects should be minor as reported by specialist.	2	2	2	2	12	L		1	2	1	1	4	L
· Probability	Negative effects are unlikely if construction is managed.	2	2	2	2	12	L		1	2	1	1	4	L
· Reversibility	Negative effects of sediment transport and pollution might not be reversible.													
· Irreplaceable loss of resources	Significant pollution could cause resource loss.													
· Avoidance	Potential negative effects can be mitigated.													
· Management	Mitigation measures provided by specialist and best practice to be included in EMPr.													
· Mitigation	Construction management and early creation of storm water systems.													
· Residual impact	None.													
· Significance rating	L													

Potential impact	SDF alternative (limited development)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
2. Operational phase														
2.1 Change in social environment	Small interactive community in Lynedoch and surrounding area will significantly increase and become urbanised.	2	4	2	4	32	H		2	3	2	4	28	H
· Nature of impact	Change in the community dynamics and management.													
· Extent	Changes will only affect Lynedoch and the immediate surrounding agricultural community.	2	4	2	4	20	H		2	3	2	4	18	H
· Duration	Change will be permanent.	2	4	2	4	20	H		2	3	2	4	18	H
· Consequence	Urban settlement and increased population will lead to loss of social cohesion.	2	4	2	4	20	H		2	3	2	4	18	H
· Probability	The larger community will not have the same dynamic as the existing small village.	2	4	2	4	20	H		2	3	2	4	18	H
· Reversibility	The effects are irreversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects can be mitigated but not avoided.													
· Management	A property owners' association (POA) could be implemented to mitigate potential effects.													
· Mitigation	Establish a management body and POA.													
· Residual impact	Less control over built environment, resource use, and security.													
· Significance rating	M													
2.2 Traffic impacts	Additional traffic on Vlottenburg service road and around Lynedoch Village.	2	4	2	4	32	H		2	2	2	3	18	M
· Nature of impact	Traffic congestion and increased pedestrian movement in surrounding area.													
· Extent	Vlottenburg service road up to intersections with Vlaeberg and Vlottenburg Road, i.e., Baden Powell connections.	2	4	2	4	20	H		2	2	2	3	14	M
· Duration	Long term effect with gradual increase as settlement occurs.	2	4	2	4	20	H		2	2	2	3	14	M
· Consequence	Traffic congestion or disruptions and risk to pedestrians.	2	4	2	4	20	H		2	2	2	3	14	M
· Probability	All properties with access off Vlottenburg service road will experience negative effects.	2	4	2	4	20	H		2	2	2	3	14	M
· Reversibility	The effects are reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	None.													
· Management	Road traffic management processes.													
· Mitigation	Effects can be mitigated through appropriate road upgrading and establishment of a public transport system.													
· Residual impact	Higher levels of traffic.													
· Significance rating	H													
2.3 Socio-economic impacts	Creation of opportunities for employment and business, also changing living patterns of existing residents.	2	4	2	3	24	M		3	4	3	3	30	H
· Nature of impact	The development will create new economic opportunities and benefit the larger community. Threshold population established for various services.													
· Extent	The effects will be positive for a larger community and negative only locally.	2	4	2	3	18	M		3	4	3	3	30	H
· Duration	Medium term positive and negative effects during construction.	2	4	2	3	18	M		3	4	3	3	30	H
· Consequence	Positive socio-economic effects for larger community, while local residents will feel negative effects.	2	4	2	3	18	M		3	4	3	3	30	H
· Probability	It is likely that the effects will occur.	2	4	2	3	18	M		3	4	3	3	30	H
· Reversibility	The negative effects are reversible over time with residents benefitting from additional services.													
· Irreplaceable loss of resources	None.													
· Avoidance	Effects need to be managed to increase benefits and reduce negative effects.													
· Management	Services need to be provided by developer.													
· Mitigation	Developer needs to provide opportunities and services.							Positive effects of housing supply and creation of threshold population will be lost, while agricultural value and potential of the land will in any event be negatively affected.						
· Residual impact	Economic and social opportunities for residents.													
· Significance rating	H													

Potential impact	SDF alternative (limited development)	Environmental significance: Pre mitigation						Mitigation / Comment	Environmental significance: Post mitigation					
Environmental issue	**Activity and significance threshold**	Extent	Duration	Consequences	Probability	Total	Significance Rating		Extent	Duration	Consequences	Probability	Total	Significance Rating
Impact / Criteria	**Description**													
2.4 Settlement impacts	Provision of housing in high demand.	2	4	2	3	24	M		3	4	4	3	33	H
· Nature of impact	High demand for housing in Stellenbosch over range of market categories.													
· Extent	Additional housing in affordable categories will benefit citizens currently residing in wider region.	2	4	2	3	18	M		3	4	4	3	33	H
· Duration	Long term positive effects.	2	4	2	3	18	M		3	4	4	3	33	H
· Consequence	The positive effects of housing in proximity of place of demand include indirect effects such as reduced traffic movement, and benefits to local businesses.	2	4	2	3	18	M		3	4	4	3	33	H
· Probability	Housing in a wide range in the affordable categories is likely according to the application.	2	4	2	3	18	M		3	4	4	3	33	H
· Reversibility	The positive effects are not reversible.													
· Irreplaceable loss of resources	None.													
· Avoidance	Positive effects need not be mitigated.													
· Management	Inclusionary housing in terms of the Stellenbosch policy must be a condition of the development.													
· Mitigation	None required.													
· Residual impact	Improved housing supply for growing population.													
· Significance rating	H													
2.5 Visual impact	Built environment will change agricultural character of area.	2	4	2	4	32	H		1	3	2	3	18	M
· Nature of impact	The visual experience of the area will change with vineyards being replaced by an urban settlement.													
· Extent	Site is visible only from certain places in the surrounding area.	2	4	2	4	20	H		1	3	2	3	8	M
· Duration	Long term effects albeit that change is accepted over time.	2	4	2	4	20	H		1	3	2	3	8	M
· Consequence	The effect is to the experience of the sense of place for citizens who have known the area for a long time.	2	4	2	4	20	H		1	3	2	3	8	M
· Probability	The change in character is definite, but the negativity of the effect might not be significant.	2	4	2	4	20	H		1	3	2	3	8	M
· Reversibility	The change is not reversible.													
· Irreplaceable loss of resources	The rural character will be lost.													
· Avoidance	Effect cannot be avoided.													
· Management	Mitigation measures required in EMPr.													
· Mitigation	Recommendations of the visual impact assessment to be introduced, e.g., placement of buildings, landscaping, nature of the development.													
· Residual impact	Loss of rural character of node.													
· Significance rating	H													
2.6 Surface run-off and pollution	No on-site surface water resources exist. There are water bodies (dams, man-made wetlands, and the Eerste River) within 500m of the site.	2	4	2	3	24	M		1	2	2	2	10	L
· Nature of impact	Development increases the surface runoff and decreases the quality thereof that could impact nearby waterbodies.													
· Extent	Effects will be localised if polluted or sediment bearing runoff is retained on site. If not it has the potential to affect the environment downstream.	2	4	2	3	18	M		1	2	2	2	6	L
· Duration	Long term effects.	2	4	2	3	18	M		1	2	2	2	6	L
· Consequence	The adjacent freshwater habitats could be degraded if effects are not avoided.	2	4	2	3	18	M		1	2	2	2	6	L
· Probability	Negative effects are likely if run-off is not managed.	2	4	2	3	18	M		1	2	2	2	6	L
· Reversibility	Negative effects of enduring pollution might not be reversible.													
· Irreplaceable loss of resources	Enduring pollution will cause resource loss.													
· Avoidance	Potential negative effects can be mitigated.													
· Management	Mitigation measures provided in storm water management plan and best practice to be included in EMPr.													
· Mitigation	Construction and management of storm water systems.													
· Residual impact	Storm water ponds on site to be managed.													
· Significance rating	M													