

Bergrivier Municipality Spatial Development Framework: 2019 - 2024

February 2019



Contact

Town Planning and Environmental Management

Bergrivier Municipality

Werner Wagener

Hannes Vermeulen

Keenin Abrahams

email:

vermeulenh@bergmun.org.za /
abrahamsk@bergmun.org.za

call:

022 783 1112 / 022 913 6000

visit:

Bergrivier Municipal Offices
Church Street 13
Piketberg



**BERGRIVIER
MUNICIPALITY**

Professional Team

Setplan

antony@setplan.com / janine@
setplan.com / carel@setplanpe.co.za /
brendan@setplanpe.co.za

GLS Consulting

hanre@gls.co.za / flip@gls.co.za /
hilton@gls.co.za

Ursula Rigby

ursula@ursularigby.co.za

Donovan Kirkwood

don@ecological.co.za



Glossary of Terms & Abbreviations

CBA -	Critical Biodiversity Area	PSG -	Provincial Strategic Goal
CRU -	Community Residential Units	RDP -	Reconstruction and Development Programme
CSIR -	Council for Scientific and Industrial Research	RSEP -	Regional Socio-Economic Programme
DEA&DP -	Department of Environmental Affairs and Development Planning	RSIF -	Regional Spatial Implementation Framework
DEDAT -	Department of Economic Development and Tourism	SANRAL -	SA National Road Agency
DRDLR -	Department of Rural Development and Land Reform	SBIDZ -	Saldanha Bay Industrial Development Zone
DTPW -	Department of Transport & Public Works	SDF -	Spatial Development Framework
DWS -	Department of Water & Sanitation	SDF -	Spatial Development Goals
EIA -	Environmental Impact Assessment	SEZ -	Special Economic Zone
EMF -	Environmental Management Framework	SHI -	Social Housing Institution
ESA -	Ecological Support Areas	SHRA -	Social Housing Regulatory Authority
FET -	Further Education and Training	SPLUMA -	Spatial Planning and Land Use Management Act
FPSU -	Farmer Production Support Unit	SPLUM -	Spatial Planning and Land Use Management
GIS -	Geographic Information System	SWOT -	Strengths Weaknesses Opportunities Threats
GSR -	Greater Saldanha Region	ToR -	Terms of Reference
GSRSIF -	Greater Saldanha Regional Spatial Implementation Framework	UAMP -	User Asset Management Plan
HWC -	Heritage Western Cape	UN -	United Nations
IAP -	Interested and Affected Parties	VPUU -	Violence Prevention through Urban Upgrading
ICM -	Integrated Coastal Management	WC -	Western Cape
ICT -	Information and Communication Technology	WCBSP -	Western Cape Biodiversity Spatial Plan
IDP -	Integrated Development Plan	WCD -	West Coast District
IDZ -	Industrial Development Zone	WCDM -	West Coast District Municipality
IRDP -	Integrated Rural Development Programme	WCG -	Western Cape Government
IUDF -	Integrated Urban Development Framework	WCIF -	Western Cape Infrastructure Framework
LED -	Local Economic Development	WCWSS -	Western Cape Water Supply System
LUPA -	Land Use Planning Act	WMA -	Water Management Area
MERO -	Municipal Economic Review and Outlook	WTW -	Water Treatment Works
MSDF -	Municipal Spatial Development Framework	WWTW -	Wastewater Treatment Works
NDP -	National Development Plan		
NEMA -	National Environmental Management Act		
NHRA -	National Heritage Resources Act		
NMT -	Non-Motorised Transport		
PSDF -	Provincial Spatial Development Framework		

Content

1. Background and Purpose	11				
1.1. The Bergrivier Municipal Spatial Development Framework, 2018	11				
1.2. Subject Area and Application of the Municipal SDF	11				
1.3. Process Followed	13				
1.3.1. Adherence to the National SDF Guidelines (2017)	13	2.6.4. The Western Cape Infrastructure Framework (2013)	22		
1.3.2. Consultation Processes	14	2.6.5. The Western Cape Provincial Land Transport Framework (2013 Update)	22		
1.4. Document Structure	14	2.6.6. Provincial SDF 2014	23		
2. Policy Context and Vision Directives	17	2.6.7. Regional Socio-Economic (RSEP) Programme	24	3. Spatial Challenges and Opportunities	33
2.1. The UN 2030 Agenda for Sustainable Development	17	2.6.8. Western Cape Biodiversity Spatial Plan 2017	25	3.1. Biophysical Analysis	34
2.2. National Development Plan 2030	18	2.7. District Objectives	26	3.1.1. Overview	34
2.3. Integrated Urban Development Framework	19	2.7.1. West Coast District SDF 2014	26	3.1.1.1. Biodiversity and Ecosystems	34
2.4. Spatial Planning and Land Use Management Act	19	2.7.2. WCD Rural Development Plan 2017	27	3.1.1.2. Coastal Setbacks	37
2.5. National Environmental Management Act (NEMA – Act 107 of 1998)	20	2.7.3. Alignment with Surrounding SDFs	29	3.1.1.3. The Berg Estuary	41
2.6. Provincial Objectives	20	2.7.3.1. Cederberg SDF 2017-2022 (2017)	29	3.1.1.4. Agriculture	42
2.6.1. One Cape	20	2.7.3.2. Witzenberg SDF (2012)	29	3.1.1.5. Cultural Landscapes	47
2.6.2. Provincial Strategic Plan 2014	21	2.7.3.3. Drakenstein SDF (2015)	29	3.1.2. Key Challenges	48
2.6.3. The Western Cape Land Use Planning Act (LUPA Act 3 of 2014)	21	2.7.3.4. Swartland SDF 2017-2022 (2017)	29	3.1.2.1. Legacy Challenges	48
		2.7.3.5. Saldanha Bay SDF (2011)	29	3.1.2.2. Current challenges	48
		2.8. Municipal Objectives and Vision	30	3.1.2.3. Future challenges	48
		2.8.1. 2017 Integrated Development Plan	30	3.1.3. Opportunities	49
		2.9. Conceptual Approach to Spatial Development in Bergrivier	31	3.2. Socio-Economic Analysis	51
		2.9.1. Synthesis of Legal, Policy and Existing Plan Informants	31	3.2.1. Overview	51
		2.9.2. Translating the Legal and Policy Directives into a Spatial Development Concept	31	3.2.1.1. Space Economy, Rural Development and Tourism	54
				3.2.1.2. Minerals and Mining Sector	58
				3.2.1.3. Social Facilities	59
				3.2.2. Key Challenges	60
				3.2.2.1. Legacy Challenges	60
				3.2.2.2. Current challenges	60
				3.2.2.3. Future challenges	60

3.2.3. Opportunities	60
3.3. Built Environment Analysis	62
3.3.1. Overview	62
3.3.1.1 Built Heritage	62
3.3.1.2 Settlement Role, Urban Form and Land Use Patterns	63
3.3.1.3 Housing	65
3.3.1.4 Transport	68
3.3.1.5 Waste Management	70
3.3.1.6 Infrastructure	70
3.3.2. Key Challenges	73
3.3.2.1 Legacy challenges	73
3.3.2.2 Current Challenges	73
3.3.2.3 Future challenges	73
3.4. Summary of Key Spatial Trends and Informants	75
3.5. Synthesis: Spatial Implications of Identified Threats and Opportunities	76

4. Municipal Spatial Proposals	79
4.1. Development Principles	79
4.2. Municipal Vision and Spatial Concept	82
4.2.1. Municipal Strategic Focus Areas	82
4.2.2. Scale of Applicability	84
4.3. Composite MSDF	84
5. Settlement Level Spatial Proposals	93
5.1. Piketberg	94
5.1.1. Status Quo Informants	94
5.1.1.1 Biophysical	94
5.1.1.2 Socio-Economic	94
5.1.1.3 Built Environment	95
5.1.2. Synthesis	97
5.1.3. Spatial Strategies	97
5.1.4. Spatial Development Framework	99
5.2. Velddrif/Laaiplek	101
5.2.1. Status Quo Informants	101
5.2.1.1 Biophysical	101
5.2.1.2 Socio-Economic	102
5.2.1.3 Built Environment	102
5.2.2. Synthesis	104

5.2.3. Spatial Strategies	104
5.2.4. Spatial Development Framework	106
5.3. Porterville	108
5.3.1. Status Quo Informants	108
5.3.1.1 Biophysical	108
5.3.1.2 Socio-Economic	108
5.3.1.3 Built Environment	109
5.7.5. Synthesis	111
5.7.6. Spatial Strategies	111
5.7.7. Spatial Strategies	111
5.7.8. Spatial Development Framework	113
5.4. Eendekuil	115
5.4.1. Status Quo Informants	115
5.4.1.1 Biophysical	115
5.4.1.2 Socio-Economic	115
5.4.1.3 Built Environment	116
5.4.2. Synthesis	118
5.4.3. Spatial Strategies	119
5.4.4. Spatial Development Framework	119
5.5. Dwarskersbos	121
5.5.1. Status Quo Informants	121
5.5.1.1 Biophysical	121
5.5.1.2 Socio-Economic	121

5.5.1.3	Built Environment	122
5.5.2.	Synthesis	124
5.5.3.	Spatial Strategies	125
5.5.4.	Spatial Development Framework	125
5.6.	Redelinghuys	127
5.6.1.	Status Quo Informants	127
5.6.1.1	Biophysical	127
5.6.1.2	Socio-Economic	127
5.6.1.3	Built Environment	128
5.6.2.	Synthesis	130
5.6.3.	Spatial Strategies	132
5.6.4.	Spatial Development Framework	132
5.7.	Aurora	134
5.7.1.	Status Quo Informants	134
5.7.1.1	Biophysical	134
5.7.1.2	Socio-Economic	134
5.7.1.3	Built Environment	135
5.7.2.	Synthesis	137
5.7.3.	Spatial Strategies	138
5.7.4.	Spatial Development Framework	138

6. Implementation Framework 141

6.1. Policies, Strategies and By Laws 141

6.2. Enabling Projects for Spatial Development and Land Use Management 145

6.3. Guidelines 151

6.3.1. Land Use Management Guidelines 151

6.3.2. Densification Guidelines 153

6.3.3. Heritage Guidelines 153

6.4. Capital Expenditure Framework 154

6.4.1. Piketberg 156

6.4.2. Velddrif / Laaiplek 158

6.4.3. Porterville 160

6.4.4. Eendekuil 162

6.4.5. Dwarskersbos 164

6.4.6. Redelinghuys 166

6.4.7. Aurora 168

6.5. Monitoring of Implementation 170

6.5.1. Reporting on Land Use and Land Development Trends 170

6.5.2. Reporting on Progress with Implementation of Land Development and Enabling Projects for Spatial Planning and Land Use Management 170

6.5.3. Municipal SDF Review Timeframes 170

Annexures 172

1. Summary of Policy Informants 173

List of Figures

Figure 1. Panoramic view of Piketberg and surrounding landscape	11	Figure 20. Map illustrating the large amount of area within Bergrivier Municipality where no natural habitat remains (orange areas)	35	Study in 2014 - interpreted to highlight Bergrivier's location and relationship with Cederberg	54
Figure 2. Bergrivier Municipality's surrounding context and location within the West Coast District	12	Figure 21. Critical Biodiversity Areas compared to ecosystem status and protected areas	36	Figure 40. Tourism activities in Bergrivier (https://www.travelbergrivier.co.za/map)	55
Figure 3. Diagram illustrating the procedural steps required in the process of preparing a local SDF - as set out in the DRDLRs SDF Guidelines Document (DRDLR, 2014)	13	Figure 22. Storm damage in Laaiplek to the Sunset Restaurant - image was sent as part a media enquiry from the Weslander	37	Figure 41. DRDLR Sector Plan for Bergrivier Municipality (DRDLR 2019)	57
Figure 4. Diagram illustrating the elements and structure of a SDF report- as set out in the DRDLRs SDF Guidelines Document (DRDLR, 2014)	15	Figure 23. Storm damage to the Strandkombuis Restaurant - June 2017	37	Figure 42. Social facilities accessibility based on travel distance standards - highlighting under-serviced rural areas (work produced as part of the WCG DEA&DP GS RSIF Social Infrastructure Accessibility Study, 2017)	59
Figure 5. The UN 2030 Sustainable Goals	17	Figure 24. Storm damage to the Laaiplek harbour - June 2017	37	Figure 43. Synthesising socio-economic opportunities and challenges in Bergrivier	61
Figure 6. Infographic highlighting the key goals for South Africa by 2030 from the 2012 NDP	18	Figure 25. Map showing key coastal management lines as well as areas of general risk and coastal protection	38	Figure 44. Dunn's Castle in Piketberg, built in the 1890s for George Dunn and designed by Sir Herbert Baker in a Victorian style.	62
Figure 7. The core elements of the IUDF and the relationship between the 4 strategic goals and the 9 policy levers	19	Figure 26. DEA&DP High, medium and low risk areas in Dwarskersbos	39	Figure 45. Dutch Reformed Church Redelinghuys	62
Figure 8. The 5 Western Cape Provincial Strategic Goals	21	Figure 27. DEA&DP High, medium and low risk areas in Laaiplek and Velddrif as well as river flooding lines	40	Figure 46. Deteriorating historical building in Wittewater	62
Figure 9. Composite proposal for the West Coast District from the 2014 PSDf	23	Figure 28. Draft zonation plan for the Berg estuary. Note that the lateral extent of all zones is up to the high tide mark only and the sizes of boxes shown here are exacerbated for clarity (Cape Nature 2012)	41	Figure 47. Google Earth image of Redelinghuys's spatial grid structure	63
Figure 10. The RSEP Reconstruction Framework	24	Figure 29. Key estuary features, coastal protection zone and proposed development setback management line for the Berg Estuary (Cape Nature 2012)	41	Figure 48. Spatial barriers between Porterville's town centre and the lower income areas of Monte Bertha	64
Figure 11. Categories on the Biodiversity Spatial Plan Map and their recommended corresponding Spatial Planning Category	25	Figure 30. Soil Types in Bergrivier Municipality	42	Figure 49. Low income housing on the periphery of Piketberg	64
Figure 12. Summary of the WCBSP map categories and their meanings and management objectives	25	Figure 31. Bergrivier Agricultural Lands	43	Figure 50. Low order retail activities along Aurora's main street	64
Figure 13. The WCDM SDF conceptual framework	26	Figure 32. Land Cover in Bergrivier	44	Figure 51. Summary of household types and conditions of ownership (Source: wazimap.co.za/profiles/municipality-WC013-bergrivier/)	65
Figure 14. Schematic Outline of the Proposed Components of the West Coast District Agri-Park	27	Figure 33. Map of Agro-Climatic Zones	45	Figure 52. Annual Average Daily Traffic on principal roads within the Bergrivier Area and Surrounds (compiled using data from https://rnis.westerncape.gov.za/rnis/kml_jobs_display.draw_map?p_job_id=18)	69
Figure 15. Piketberg FPSU Catchment Area and Spatial Targeting (DRDLR 2019)	28	Figure 34. Agricultural infrastructure and activities in and around Bergrivier	46	Figure 53. Infrastructure and networks relevant to Bergrivier and the region	72
Figure 16. Spatially highlighting the implications of surrounding SDFs and frameworks on the Bergrivier area	29	Figure 35. Cultural landscapes, historic routes and sites in Bergrivier (interpreted from PSDf 2014 data)	47	Figure 54. Built Environment Synthesis	74
Figure 17. Aligning the Bergrivier's Vision with National, Provincial and District principles	31	Figure 36. The 4 identified scenic cultural landscapes of Bergrivier (Ursula Rigby Heritage Study 2018)	49	Figure 55. Municipal biodiversity networks and SPC management frameworks	87
Figure 18. The 3 SDF themes and their associated sub-elements as defined by the DRDLRs SDF Guidelines	33	Figure 37. Synthesis of biophysical elements, challenges and opportunities in Bergrivier	50	Figure 56. Key Municipal infrastructure networks	88
Figure 19. Landscape variability expressed by ecosystems and vegetation leads to the identification of 5 broader biophysical landscapes	34	Figure 38. Comparing town populations and functions of the settlements in Bergrivier	53	Figure 57. The rural space economy	89
		Figure 39. Map of district boundaries and functional economic regions as determined by US/CSIR Growth Potential of Towns		Figure 58. The urban space economy	90

Figure 59. The Composite Municipal Spatial Framework	91	Figure 85. Aerial views of the vacant portions in northern region of town	117	Figure 110. Retail activity in Aurora	135
Figure 60. Artist' impression of Piketberg 1857 (Unknown - Licensed under PD-SA via Wikipedia. Source: af.wikimedia.org)	95	Figure 86. Aerial views of the southern housing development area and the Rooibos factory	117	Figure 111. The rural character of the town	135
Figure 61. The Versveld Pass - originally built in 1899 by a local farmer and less than 20 labourers in just three months	95	Figure 87. Spatial Concept and strategies for Eendekuil	118	Figure 112. Spatial Analysis and Trends - Aurora	136
Figure 62. Spatial Analysis and Trends - Piketberg	96	Figure 88. Spatial Framework for Eendekuil	120	Figure 113. The main entrance into town and the grid structure of the streets	136
Figure 63. Degraded buildings characterise the urban fabric of the town centre	97	Figure 89. Houses built close to the shore in Dwarskersbos (https://hiveminer.com/Tags/dwarskersbos)	121	Figure 114. Lower income housing on the southern periphery of town	136
Figure 64. Spatial Concept and strategies for Piketberg	98	Figure 90. Scenic coastline	121	Figure 115. Spatial Concept and strategies for Aurora	137
Figure 65. Spatial Framework for Piketberg	100	Figure 91. Slakkepas, a security complex development in Dwarskersbos	122	Figure 116. Spatial Framework for Aurora	139
Figure 66. Coastal erosion in Laaiplek	101	Figure 92. Soverby Lapa Beach Restaurant seating	122	Figure 117. The roadmap to achieving NHR Act Competency - prepared by Rigby as a guide with notes for the Bergrivier SDF	147
Figure 67. 1942 and 1960 aerial imagery, as well as a current image from 2019 of the Berg River Estuary mouth showing the dynamic and mobile nature of the system	101	Figure 93. The wooden walkway from Soverby Lapa Beach Restaurant to the beach	122	Figure 118. Spatial allocation of key enabling projects for Spatial Development and Land Use Management	150
Figure 68. The watercourse buffer between Noordhoek and Laaiplek, where informal pedestrian routes are visible	102	Figure 94. Spatial Analysis and Trends - Dwarskersbos	123	Figure 119. Implementation Framework and Land Budgeting - Identification and Prioritisation for Piketberg	157
Figure 69. Vacant plots with serviced sites in Laaiplek	103	Figure 95. The approved development and the area declared as conservation area to the south	123	Figure 120. Implementation Framework and Land Budgeting - Identification and Prioritisation for Velddrif / Laaiplek	159
Figure 70. Spatial Analysis and Trends in Velddrif/Laaiplek	103	Figure 96. Services starting to be put in place along the coast for new development	123	Figure 121. Implementation Framework and Land Budgeting - Identification and Prioritisation for Porterville	161
Figure 71. Spatial Concept and strategies for Velddrif/Laaiplek	105	Figure 97. Spatial Concept and strategies for Dwarskersbos	124	Figure 122. Implementation Framework and Land Budgeting - Identification and Prioritisation for Eendekuil	163
Figure 72. Spatial Framework for Velddrif and Laaiplek	107	Figure 98. Spatial Framework for Dwarskersbos	126	Figure 123. Implementation Framework and Land Budgeting - Identification and Prioritisation for Dwarskersbos	165
Figure 73. View of Groot Winterhoek Mountains	108	Figure 99. The surrounding farms and mountains of the Redelinghuys area	127	Figure 124. Implementation Framework and Land Budgeting - Identification and Prioritisation for Redelinghuys	167
Figure 74. Commercial activity along Voortrekker Road	108	Figure 100. Personalised residential areas with gardens and decorations	128	Figure 125. Implementation Framework and Land Budgeting - Identification and Prioritisation for Aurora	169
Figure 75. Views of Voortrekker Road	109	Figure 101. Views of the church	128		
Figure 76. The historic Dutch Reformed Church in Porterville, founded in 1879	109	Figure 102. A Victorian style building still in tact	128		
Figure 77. Spatial Analysis and Trends in Porterville	110	Figure 103. Spatial Analysis and Trends - Redelinghuys	129		
Figure 78. Spatial barriers between Monte Bertha and the CBD	111	Figure 104. New housing on the periphery of town	130		
Figure 79. Spatial Concept and strategies for Porterville	112	Figure 105. The Verlorenvlei River framing the northern portion of town	130		
Figure 80. Spatial Framework for Porterville	114	Figure 106. Spatial Concept and strategies for Redelinghuys	131		
Figure 81. Eendekuil landscape and surrounding environment	115	Figure 107. Spatial Framework for Redelinghuys	133		
Figure 82. Eendekuil's Dutch Reformed church	116	Figure 108. The agricultural landscape	134		
Figure 83. Eendekuil's bus station	116	Figure 109. Flowers in season	134		
Figure 84. Spatial Analysis and Trends - Eendekuil	117				

List of Tables

Table 1. Key Stakeholder Engagements	14	Table 22. Piketberg overview of demographics, social facilities and housing	94	Table 49. Local Planning Projects	146
Table 2. Engagements with Project Institutional Structures	14	Table 23. Noteworthy buildings in Piketberg (Rigby, 2018)	95	Table 50. Heritage Compliance Projects	147
Table 3. Key Transitions per sector as proposed by Western Cape Infrastructure Framework	22	Table 24. Status of municipal services for Piketberg (Infrastructure and Housing Pipeline, 2017)	96	Table 51. Land Use Management Projects	148
Table 4. Other local policies and plans relevant in terms of policy and vision directives	30	Table 25. Top 5 Strategic Priority Projects for Piketberg	99	Table 52. Land Reform Projects	149
Table 5. Total area per land cover in Bergrivier	42	Table 26. Velddrif/Laaiplek overview of demographics, social facilities and housing	102	Table 53. Spatial Planning Categories and Land Use Management Guidelines	151
Table 6. Assessment of Agro-Climatic Zones relevant to Bergrivier	45	Table 27. Status of municipal services for Velddrif/Laaiplek	103	Table 54. Spatial Planning Categories and Land Use Management Guidelines	152
Table 7. Breakdown of the population data for each settlement in Bergrivier.	52	Table 28. Top 5 Strategic Priority Projects for Velddrif / Laaiplek	106	Table 55. Comparing Housing Need versus land allocated for development and the associated densities	154
Table 8. Competitive Advantages of the Economic Sectors of Bergrivier (from IDP)	56	Table 29. Porterville overview of demographics, social facilities and housing	108	Table 56. Municipal Infrastructure Priorities and Budgets	155
Table 9. Settlement Establishment in Bergrivier	62	Table 30. Status of municipal services for Porterville	110	Table 57. Land budgeting for housing in Piketberg	156
Table 10. Current Housing Need per Town	65	Table 31. Top 5 Strategic Priority Projects for Porterville	113	Table 58. Piketberg Bulk Capacities and Projects	156
Table 11. Current Housing Pipeline	66	Table 32. Eendekuil overview of demographics, social facilities and housing	115	Table 59. Land budgeting for housing in Velddrif / Laaiplek	158
Table 12. Existing airfields within the Regional Area (West Coast District Municipality ITP 2015 - 2020)	68	Table 33. Status of municipal services for Eendekuil	117	Table 60. Velddrif / Laaiplek Bulk Capacities and Projects	158
Table 13. Infrastructure upgrading requirements: Red=Upgrading needed before 2020, Yellow=upgrading needed between 2020 and 2025, Green=upgrading needed between 2025 and 2035 (Bergrivier Infrastructure and Housing Pipelines report)	71	Table 34. Top 5 Strategic Priority Projects for Eendekuil	119	Table 61. Land budgeting for housing in Porterville	160
Table 14. External Threats	76	Table 35. Dwarskersbos overview of demographics, social facilities and housing	121	Table 62. Porterville Bulk Capacities and Projects	160
Table 15. External Opportunities	76	Table 36. Status of municipal services for Dwarskersbos	123	Table 63. Land budgeting for housing in Eendekuil	162
Table 16. Local strengths	77	Table 37. Top Strategic Priority Projects for Dwarskersbos	125	Table 64. Eendekuil Bulk Capacities and Projects	162
Table 17. Local Weaknesses	77	Table 38. Redelinghuys overview of demographics, social facilities and housing	127	Table 65. Land budgeting for housing in Dwarskersbos	164
Table 18. Composite SPLUMA/LUPA Development/Land Use Planning Principles - Spatial Justice and Resilience	79	Table 39. Status of municipal services for Redelinghuys	129	Table 66. Dwarskersbos Bulk Capacities and Projects	164
Table 19. Composite SPLUMA/LUPA Development/Land Use Planning Principles - Efficiency and Good Administration	80	Table 40. Top 5 Strategic Priority Projects for Redelinghuys	132	Table 67. Land budgeting for housing in Redelinghuys	166
Table 20. Composite SPLUMA/LUPA Development/Land Use Planning Principles - Spatial Sustainability	81	Table 41. Aurora overview of demographics, social facilities and housing	134	Table 68. Redelinghuys Bulk Capacities and Projects	166
Table 21. Spatial components and the relevant spatial strategies of the municipal SDF	86	Table 42. Status of municipal services for Aurora	136	Table 69. Land budgeting for housing in Aurora	168
		Table 43. Top Strategic Priority Projects for Aurora	138	Table 70. Aurora Bulk Capacities and Projects	168
		Table 44. Key Provincial policies and guidelines	141	Table 71. Summary of Policy Informants at International and National Scale	173
		Table 45. Key Municipal policies and guidelines	142	Table 72. Summary of Policy Informants at Provincial Scale	174
		Table 46. Key Municipal policies and guidelines	143	Table 73. Summary of Policy Informants at District and Local Scale	175
		Table 47. Key Municipal policies and guidelines	144	Table 74. Summary of Key Policy Informants that are relevant to the municipality in terms of environmental management and an indication of how they should be applied or what their significance is for Bergrivier	176
		Table 48. Local Planning Projects	145		

1.

Background and Purpose



1. Background and Purpose

1.1. The Bergrivier Municipal Spatial Development Framework, 2019-2024

The Bergrivier Municipal Spatial Development Framework, 2018 (MSDF) has been compiled in terms of the provisions of the Municipal Systems Act, 2000 (MSA, Act 32 of 2000), the Spatial Planning and Land Use Management Act, 2013 (SPLUMA, Act 16 of 2013), the Western Cape Land Use Planning Act, 2014 (LUPA, Act 3 of 2014) and the Bergrivier Municipality By-Law Relating to Municipal Land Use Planning (the By-Law, as per PN 7910 of 6 April 2018).

1.2. Subject Area and Application of the Municipal SDF

The Bergrivier Municipality is one of five municipalities that fall within the West Coast District. It is approximately 4407,04 km² in extent and is notable for the subtle variety and beauty of its rural landscapes and its 40 kilometres of coastline, much of which remains largely undeveloped.

The area administered by the Bergrivier Municipality encompasses a variety of land uses and settlement types, which range from large and smaller commercial farming enterprises; the towns of Piketberg, Porterville, Eendekuil, Redelinghuys and Aurora, which serve principally as service centres to their rural hinterland; the Moravian Mission-owned rural settlements of Goedverwacht, Wittewater and Genadenberg; the privately-owned settlement and related industrial and administrative complex at De Hoek; and the inter-related coastal towns and resorts of Velddrif, Laaiplek and Dwarskersbos.

The Bergrivier Municipality is bounded to the west by the Atlantic Ocean, to the south by the Saldanha Bay, Swartland and Drakenstein Municipalities, to the east by the Witzenberg Municipality, and to the north by the Cederberg Municipality.

Main access routes to and through the area are the north-south aligned National Route N7 and the coastal route R27, with east-west movement being mainly routed on the R399 and the R44 links from Velddrif via Piketberg to Porterville. The latter route offers a strategic link southward to Wellington and Paarl as well as a south-westerly link to Worcester and the N1 transportation corridor to the inland areas of South Africa and on up to the main Gauteng-centred economic hub of the country.

In serving as a tool for the Municipality to guide and direct spatial planning and development management of the land and settlements under its jurisdiction, the Municipal SDF seeks to provide guidance on how best to manage land use and plan to meet current and future needs for settlement growth and spatial development, and where best to direct scarce resources in order to achieve outcomes that are in line with the development principles set out in the applicable national and provincial spatial planning legislation, namely: Spatial Justice, Spatial Sustainability, Efficiency, Spatial Resilience and Good Administration.

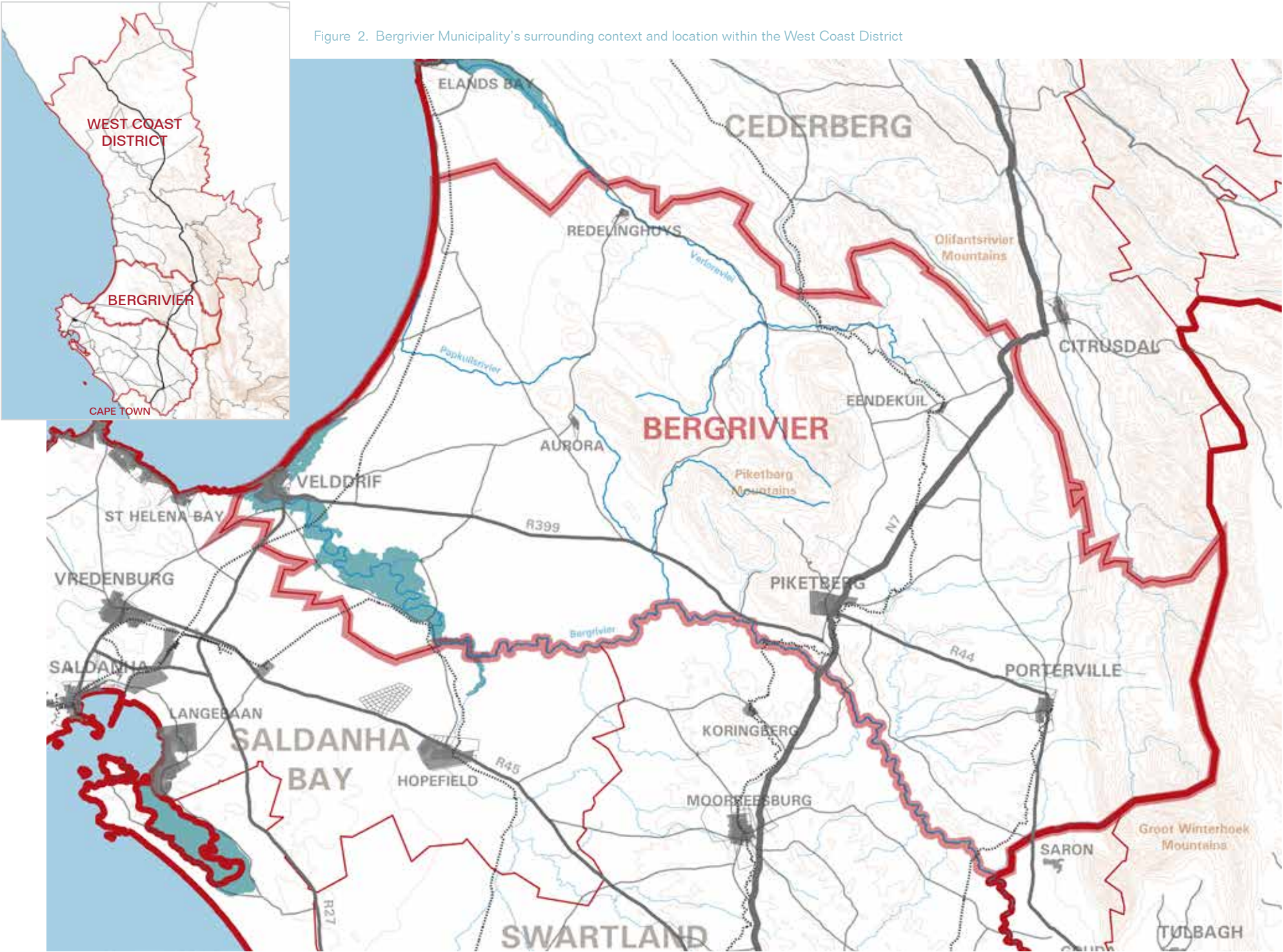
In attempting to span the requirements set out above, it is important to note the following points:

- The Municipal SDF does not create or confer land development rights, nor does it withdraw existing land development rights (even where these may run counter to the principles set out in the document).
- Instead, it sets out principles and guidelines that are intended to assist the Bergrivier Municipality and other agencies involved in land development in planning for and managing such development in a way that the best possible use is made of restricted ecological, human and financial resources, so that existing and new developments may be regarded as environmentally, socially and economically sustainable.
- Within this context, it is the responsibility of the Bergrivier Municipality to carry out spatial planning and land use management in terms of its constitutional mandate to undertake Municipal Planning and it must be guided in this by the general principles and laws affecting spatial development and land use set in place by the National and Provincial spheres of government.
- In fulfilling its mandate as a regulator of land use, the Bergrivier Municipality must also affirm in an



Figure 1. Panoramic view of Piketberg and surrounding landscape

Figure 2. Bergrivier Municipality's surrounding context and location within the West Coast District



objective manner the fundamental principle accepted in law in South Africa that the rights associated with land ownership are limited by each land owner's co-responsibility for the greater public good in relation to spatial and socio-economic development as well as the management of the natural environment.

- In planning and managing land use for that greater public good, then, the Bergrivier Municipality has the obligation and the authority to, where necessary, moderate the extent to which landowners may exercise their rights in land development and land use. Accordingly, this Municipal Spatial Development Framework will be formulated to provide a clear set of principles and guidelines to direct and assist the Municipality in fulfilling its mandate.

1.3. Process Followed

1.3.1. Adherence to the National SDF Guidelines (2017)

In line with the direction of the DRDLR SDF Guidelines, the overall method to develop the new MSDF was conceived as an iterative progression and not a linear, step-by-step process. This is reflected in the flow diagram taken from the Guidelines - Figure 3.

Within the Five-Phase approach adopted in terms of the Guidelines, consultation with stakeholders and the communities of Bergrivier was aligned as far as possible with the Bergrivier Municipality's IDP processes in order not to duplicate meetings and/or cause "participation fatigue".

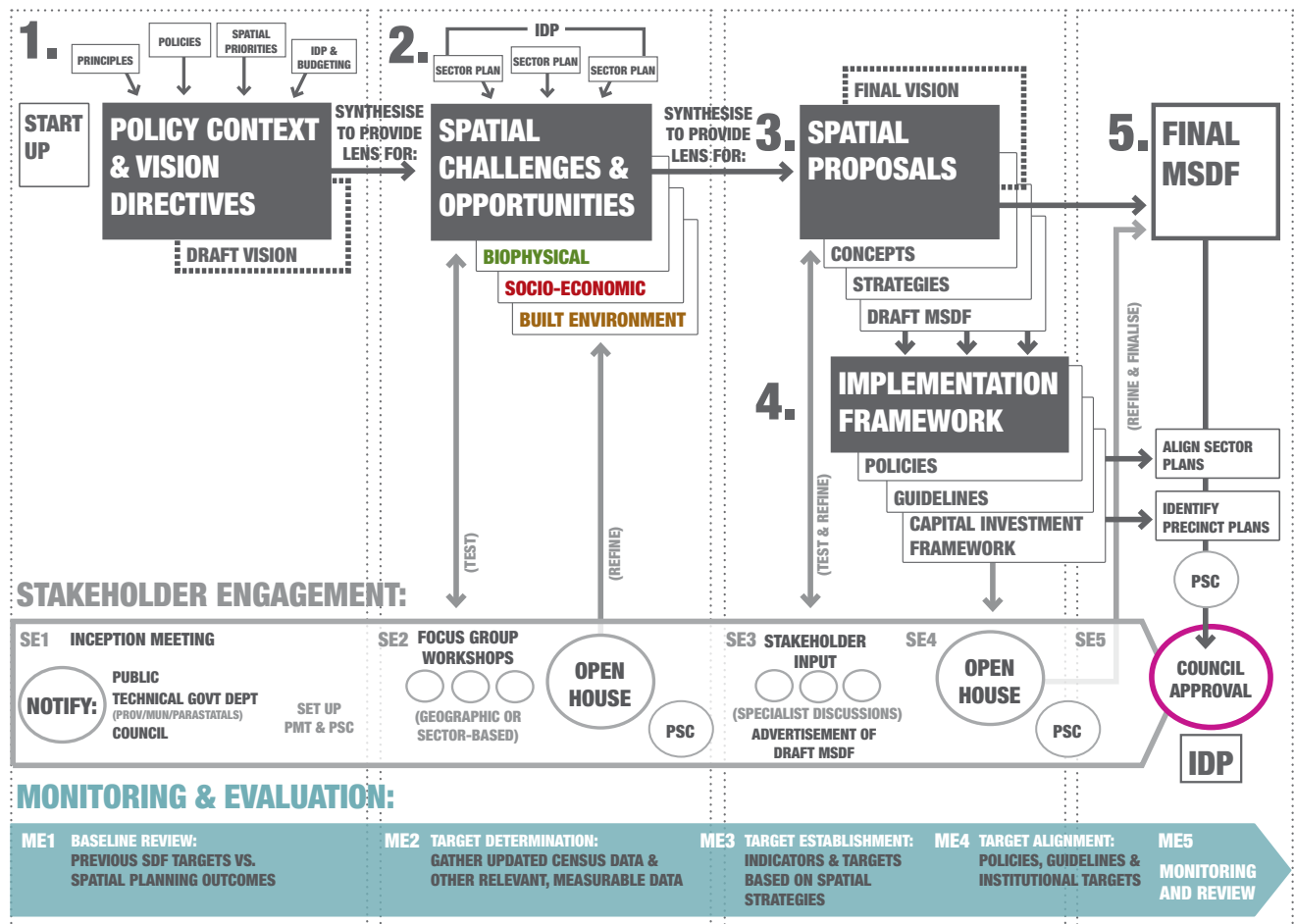


Figure 3. Diagram illustrating the procedural steps required in the process of preparing a local SDF - as set out in the DRDLRs SDF Guidelines Document (DRDLR, 2014)

Table 1. Key Stakeholder Engagements

Type of Engagement	Date of Engagement	Nature of Engagement
Velddrif Chamber of Commerce	24 January 2018	Meeting to introduce the MSDF process to the Chamber and to obtain initial input on key issues in Velddrif/Laiplek
Ward 1 Ward Committee	19 February 2018	Introductory Meetings to contextualise the Municipal SDF Project and elicit preliminary inputs on key issues in the respective towns and surrounding rural areas
Ward 2 Ward Committee	19 February 2018	
Ward 3 Ward Committee	20 February 2018	
Ward 4 Ward Committee	20 February 2018	
Ward 5 Ward Committee	21 February 2018	
Ward 6 Ward Committee	22 February 2018	
Ward 7 Ward Committee	1 March 2018	
Regional Socio-Economic Programme (RSEP)	29 May 2018	Consultative Meeting to obtain updated information on the RSEP's activities in Piketberg
Joint Ward 1 and 2 Ward Committees	11 June 2018	Interactive workshop sessions to obtain input and direction from local stakeholders on spatial proposals at local settlement level
Joint Ward 3 and 4 Ward Committees	12 June 2018	
Ward 5 Ward Committee	13 June 2018	
Joint Ward 6 and 7 Ward Committees	14 June 2018	
Ward 5 Ward Committee	21 June 2018	
Ward 6 Ward Committee	22 June 2018	
Joint Consolidation Workshop with Ward Committees	15 August 2018	Interactive workshop to engage with and obtain input on the challenges posed by the need to pursue spatial integration within Bergrivier's urban settlements

Table 2. Engagements with Project Institutional Structures

Type of Engagement	Date of Engagement	Nature of Engagement
Municipal MSDF Project Committee	8 February 2018	Meeting to review project arrangements and approved Project Inception Report
Intergovernmental Steering Committee (ISC)	16 March 2018	Meeting to review progress and content on Status Quo Phase
Intergovernmental Steering Committee (ISC)	22 June 2018	Meeting to review progress and content on Phase 3: 1st Draft MSDF
Intergovernmental Steering Committee (ISC)	18 January 2019	Meeting to review and provide input on responses to comments received after 60-day period of public commentary post-advertisement of Draft MSDF and to guide finalisation of MSDF

1.3.2. Consultation Processes

The work set out in this document has been informed by a series of engagements with key stakeholders as well as technical specialists and Bergrivier Municipality officials. Apart from one-on-one consultations held with local residents, with technical officials of the Bergrivier Municipality, and consultations with fellow professionals with direct experience in the study area, the formal engagements undertaken, to date, sought to align with the Municipality's IDP programme and schedule of meetings for public participation. These engagements are set out in Tables 1 and 2.

1.4. Document Structure

The structure of this document is directed by the SDF Guidelines compiled by the Department of Rural Development & Land Reform (DRDLR) illustrated in Figure 4. In accordance with the substance of the Guidelines, this report addresses the following elements of an MSDF:

1. Background & Purpose
2. Policy Content & Vision Directives
3. Spatial Challenges & Opportunities
4. Municipal Spatial Proposals
5. Settlement Level Spatial Proposals
6. Implementation Framework

MSDF ELEMENTS:

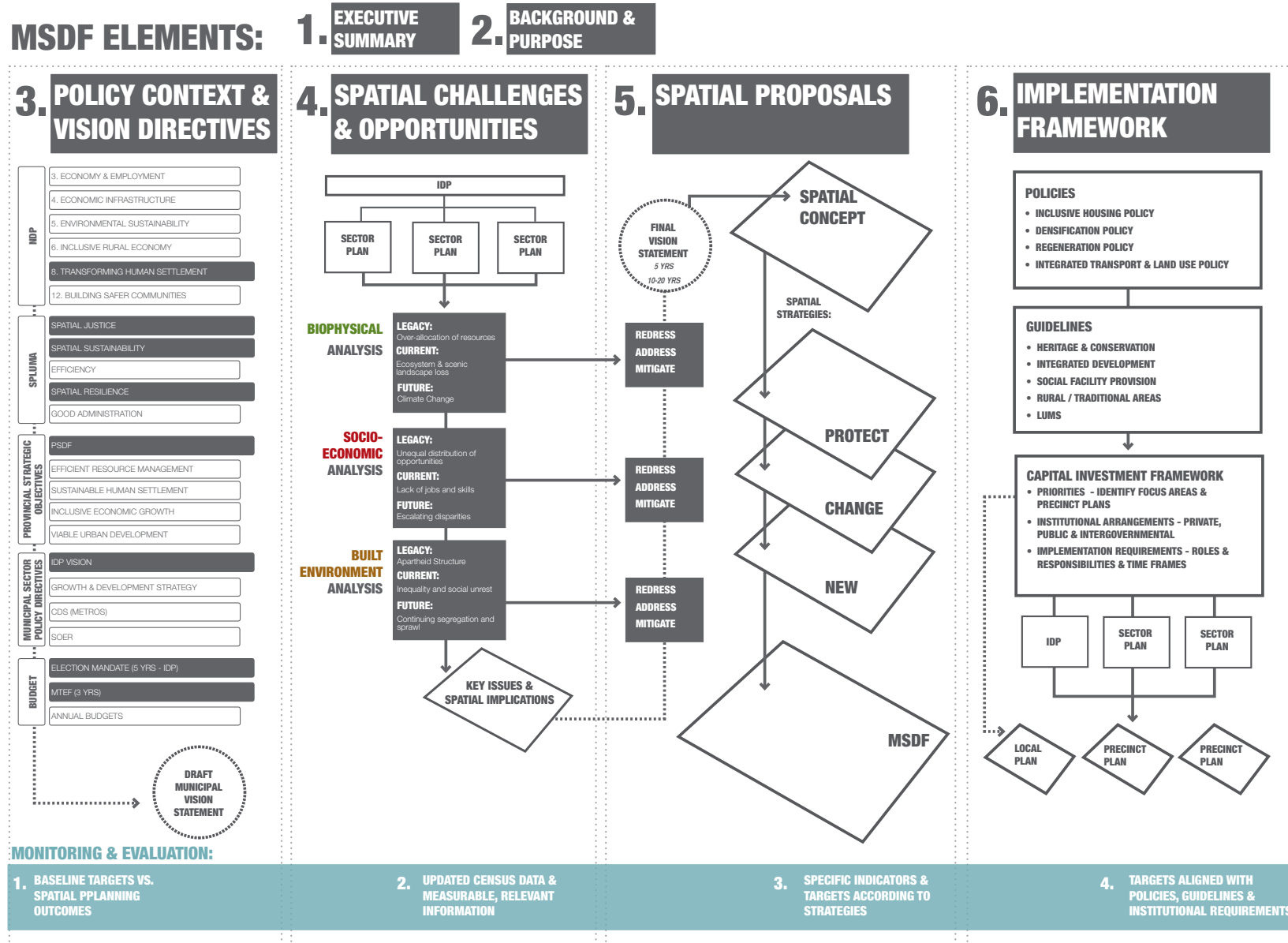


Figure 4. Diagram illustrating the elements and structure of a SDF report- as set out in the DRDLRs SDF Guidelines Document (DRDLR, 2014)

2.

Policy Context and Vision Directives



2. Policy Context and Vision Directives

The Bergrivier Municipal SDF needs to acknowledge critical development needs which fall within the broader functional mandate of the West Coast District Municipality (WCDM), the Western Cape Provincial Government (WCG) and/or National Government Departments (and State-Owned Entities). The vision for Bergrivier needs to be framed within this policy context which provides the overarching spatial direction and intent for the future development of the region. In addition, global policy guidance needs to be borne in mind as well, as this is intended to inform national, provincial and local policy formation.

Accordingly, key global, national, provincial and local policies relevant to the spatial planning agenda for the Bergrivier Municipality's area of jurisdiction are outlined below.

2.1. The UN 2030 Agenda for Sustainable Development

As part of its 2030 Agenda for Sustainable Development, the United Nations (UN) has formulated 17 Sustainable Development Goals, (SDGs) which were adopted at the United Nations Sustainable Development Summit on 25 September 2015.

These SDGs – also known as the Global Goals – set out principles and targets aimed at ending poverty, hunger and inequality; promoting action to respond to climate change and the protection of the environment; improving access to health and education opportunities; planning for sustainable cities and communities; and building strong institutions and partnerships toward achieving the Goals.

From the perspective of the Municipal SDF, the UN SDGs provide informants towards the formulation of spatial development and land use management policies, strategies, objectives and targets that, fundamentally, seek to address the key developmental challenges that have been increasingly well-defined in the Bergrivier

Municipality's IDP, SDF and sector planning processes, over time. In particular, the following SDGs are noted:

SDG 6: Clean Water & Sanitation emphasises the need to pursue policies, implement strategies, and ensure adequate investment is made in developing appropriate water supply systems and infrastructure to ensure adequate fresh (potable) water is supplied to communities;

SDG 7: Renewable Energy shifts the focus on to what it terms “sustainable energy”, stressing that appropriate policies need to be followed to ensure that adequate energy is supplied as, in order to meet developmental challenges such as decent jobs, security, climate change, food production or increasing incomes, access to energy for all communities is essential;

SDG 9: Innovation & Infrastructure highlights that investments in infrastructure – transport, irrigation, energy and information and communication technology

(ICT) – are crucial to achieving sustainable development and empowering communities. The text notes: “Technological progress is the foundation of efforts to achieve environmental objectives, such as increased resource and energy-efficiency. Without technology and innovation, industrialization will not happen, and without industrialization, development will not happen;”

SDG11: Sustainable Cities and Communities recognises that, increasingly, societies are urbanising and that cities are, increasingly, going to experience growth in populations and related demands on housing, infrastructure, facilities and resources (the environment). However, the Goal stresses that cities should be seen as places with potential: they are hubs for ideas, commerce, culture, science, productivity, social development and in many cases have enabled societies to advance socially and economically. The challenges associated with urbanisation, however, need to be dealt with programmatically and this is the key informant drawn from the SDG for the Bergrivier Municipal SDF.



Figure 5. The UN 2030 Sustainable Goals

2.2. National Development Plan 2030

The National Development Plan (NDP) 2030 was developed by the National Planning Commission and adopted in 2012. The document serves as a long-term plan for the nation, centring on “writing a new story for South Africa”. The NDP further focuses on reducing poverty and inequality by putting in place the basic requirements that people need, to take advantage of available opportunities. The plan prioritises increasing employment and improving the quality of education while advocating an integrated approach to addressing these challenges.

The NDP's human settlement targets, as set out in Chapter 8, focus on transforming human settlements and the national space economy. Goals include:

- **more people living closer to their places of work**
- **better quality public transport; and**
- **more jobs in proximity to townships.**

To achieve these goals, the NDP advocates measures to prevent further development of housing in marginal places; increased urban densities to support public transport; incentivising economic activity in and adjacent to townships; and engaging the private sector in the gap housing market.

Other goals relevant to achieving the desired spatial form and a more viable space-economy are:

- **building of safer communities** through developing community safety centres to prevent crime, and
- **improvement of education, training and innovation** through strengthening youth service programmes and introducing new, community-based programmes to offer young people life skills training, as well as entrepreneurship training and opportunities to participate in community development programmes while expanding the number of **further education and training (FET) colleges.**

Chapter 5 of the NDP focuses on environmental sustainability and resilience through an equitable transition to a low-carbon economy. Chapter 6 sets out special targets and goals towards establishing a more **inclusive rural economy** through integrated rural development. The focus here is on increased investment in *new agricultural technologies, research and the development of adaptation strategies for the protection of rural livelihoods and expansion of commercial agriculture.*

Chapter 8, which focuses on the country's spatial planning system, requires that:

- all municipal and provincial SDFs are translated into 'spatial contracts that are binding across national, provincial and local governments'
- the current planning system should 'actively support the development of plans that cross municipal and even provincial boundaries', especially to deal with biodiversity protection, climate-change adaptation, tourism and transportation
- every municipality should have an 'explicit **spatial restructuring strategy**' which must include the identification of 'priority precincts for spatial restructuring'

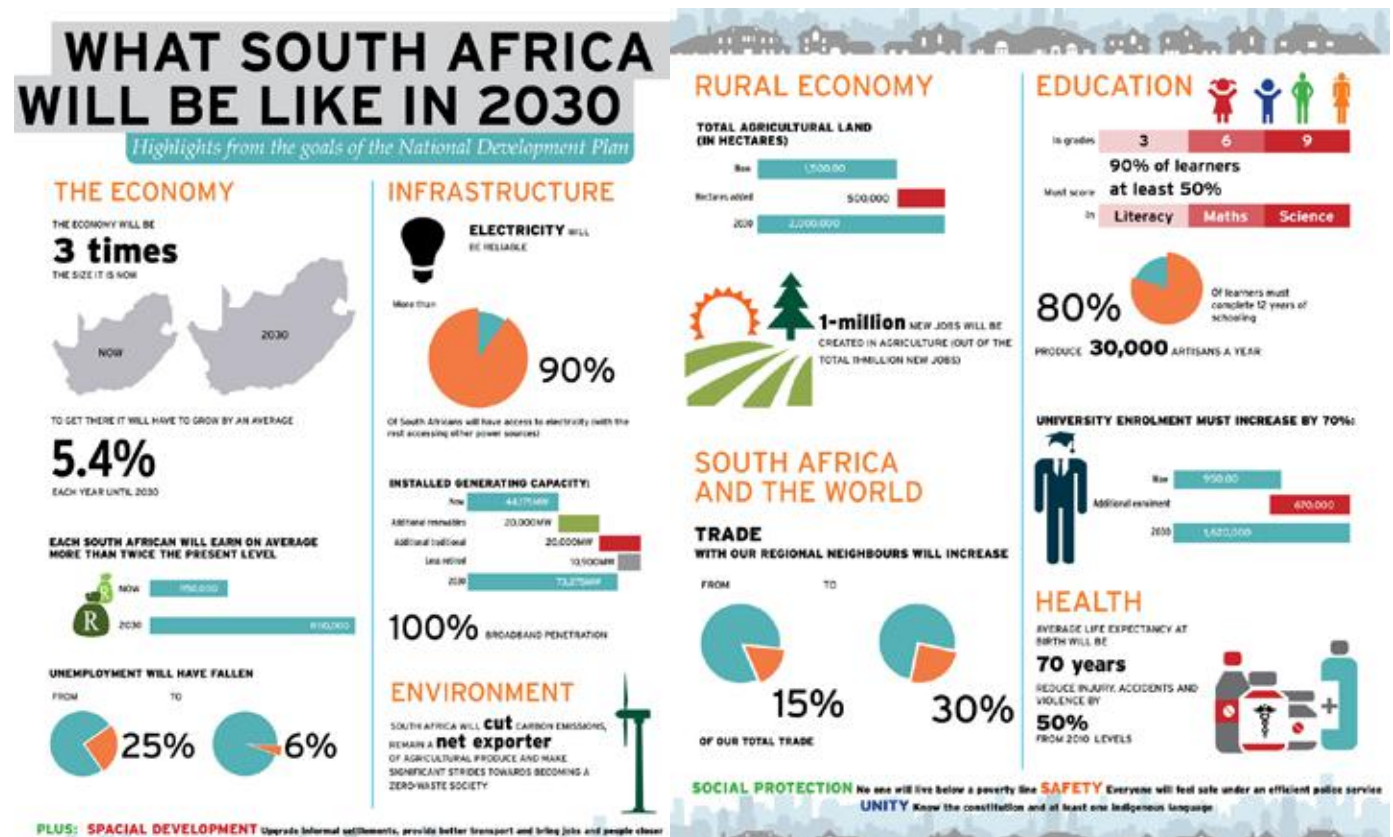


Figure 6. Infographic highlighting the key goals for South Africa by 2030 from the 2012 NDP

2.3. Integrated Urban Development Framework

The Integrated Urban Development Framework (IUDF) that was approved by National Cabinet on 26 April 2016 aims to steer urban growth towards a sustainable model of compact, connected and coordinated towns and cities. The IUDF provides a roadmap to implement the NDP's vision for spatial transformation – creating liveable, inclusive and resilient towns and cities while reversing the apartheid spatial legacy.

To achieve this transformative vision, four overall strategic goals are introduced:

- 1. Spatial integration** - To forge new spatial forms in settlement, transport, social and economic areas.
- 2. Inclusion and access** - To ensure people have access to social and economic services, opportunities and choices.

- 3. Growth** - To harness urban dynamism for inclusive, sustainable economic growth and development
- 4. Governance** - To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

These strategic goals inform the priority objectives of nine policy levers (see Figure 7), which are premised on the understanding that integrated urban planning forms the basis for achieving integrated urban development, which follows a special sequence of urban policy actions. Integrated transport needs to inform targeted investments into integrated human settlements, underpinned by integrated infrastructure network systems and efficient land governance. The IUDF states that, taken all together, these levers can trigger economic diversification, inclusion and empowered communities, if supported by effective governance and financial reform.

2.4. Spatial Planning and Land Use Management Act

The Spatial Planning and Land Use Management Act, 2013 (SPLUMA) was assented to by the President of the Republic of South Africa on 5 August 2013. SPLUMA is a framework act for all spatial planning and land use management legislation in South Africa. It seeks to promote consistency and uniformity in procedures and decision-making, whilst at the same time addressing historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments.

Chapter 2 of SPLUMA sets out the development principles that must guide the preparation, adoption and implementation of any spatial development framework, policy or by-law concerning spatial planning and the development or use of land. These objectives include the

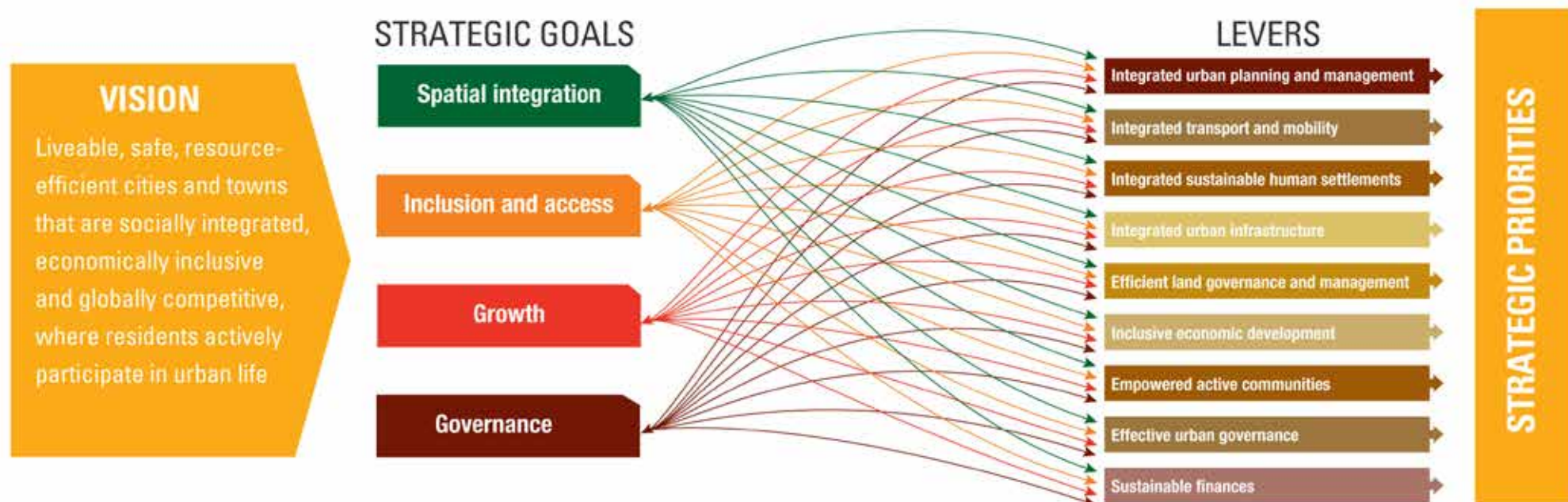


Figure 7. The core elements of the IUDF and the relationship between the 4 strategic goals and the 9 policy levers

redress of spatial injustices and the integration of socio-economic and environmental considerations in land use management

in order to balance current development needs with those of the future generations. SPLUMA reinforces the NDP's vision and policies in respect of using spatial planning mechanisms to eliminate poverty and inequality while creating conditions for inclusive growth by seeking to foster a high-employment economy. The 5 principles set out in SPLUMA are:

1. **Spatial Justice** - Redressed past spatial and other development imbalances through improved access to and use of land by disadvantaged communities and persons.
2. **Spatial Sustainability** - Promote spatial planning and land use management and land development systems that are based on principles of socio-economic and environmentally sustainable development in South Africa.
3. **Efficiency** - Optimise existing resources and the accompanying infrastructure, including development application procedures in order to promote growth and employment.
4. **Spatial Resilience** - Mitigation and adaptability through innovations to secure communities from spatial dimensions of socio-economic and environmental (climate change) shocks.
5. **Good Administration** - Ensured cooperative governance through laws, procedures and administrative practice relating to land development.

Section 12 (1) sets out general provisions applicable to the preparation of all scales of SDFs. Chapter 4 sets out the focus and general requirements that must guide the preparation and compilation of SDF products at the various scales. The DRDLR's 2017 SDF Guidelines define the purpose and focus of Municipal SDFs, based on the provisions as set out in Chapter 4 of SPLUMA as:

- Aligning and complimenting the Provincial spatial vision
- Providing the long term spatial strategy and vision

- Providing the spatial logic to the IDP
- Guiding municipal planning and land use decisions
- Facilitating cross-sectoral focus (housing ecological, economic, transport, infrastructure etc.)

"A municipal spatial development framework must assist in integrating, coordinating, aligning and expressing development policies and plans emanating from the various sectors of the spheres of government as they apply within the municipal area" SPLUMA Chapter 4 Part A 12 (2) (b)

2.5. National Environmental Management Act (NEMA – Act 107 of 1998)

Like SPLUMA, the National Environmental Management Act (NEMA – Act 107 of 1998) is identified as "framework legislation" that is intended to define overarching and generally applicable principles to guide related legislation as well as the activities integral to environmental management. Accordingly, its purpose is defined in the Act as:

'to provide for co-operative environmental governance by establishing principles for decision-making on matters effecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of the state, to provide for certain aspects of the administration and enforcement of other environmental management laws; and to provide for matters connected therewith.'

The importance of NEMA in Bergrivier Municipality is fundamental in so far as the issues of environmental sustainability, resilience to climate change and wise use of the natural resource base are key to the current and future socio-economic wellbeing of residents in the municipal area. This is especially so because of the fact that sectors such as agriculture, fishing and tourism, which all rely to a great extent on the natural assets of

the area, remain of great importance to the local economy and are likely to do so in future.

In this regard, the National Environmental Management Principles are important and are to be applied in tandem with the Development Principles set out in Section 7 of SPLUMA. It is also notable that both SPLUMA and NEMA provide for an integrated and coordinated approach towards managing land use and land development processes. This approach is based on co-operative governance and envisages the utilisation of spatial planning and environmental management "instruments" such as spatial development frameworks and environmental management frameworks to build alignment and integration between the imperatives of strategic spatial planning to facilitate development processes whilst ensuring that biodiversity and other critical elements of the natural environment are adequately protected to ensure sustainability.

2.6. Provincial Objectives

SPLUMA requires national, provincial, and municipal spheres of government to prepare SDFs that establish a clear vision developed through a thorough inventory and analysis based on national spatial principles and local long-term development goals and plans. SDFs are thus mandatory at all three spheres of government and SPLUMA confirms in sub-section 12(2) that all three spheres must participate in each other's processes of spatial planning and land use management. Therefore, national as well as provincial planning principles must be aligned to inform local SDFs and guide local municipalities when developing the spatial agenda for their area. The relevant provincial policies are set out below.

2.6.1. One Cape

OneCape 2040 sets out a long-term economic vision for the Western Cape. The vision complements the NDP and builds on the Western Cape Government's Provincial Strategic Objectives (PSOs). It sets the goal of "creating a resilient, inclusive and competitive Western Cape with higher rates of employment producing growing incomes, greater equality and an improved quality of life".

OneCape 2040 positions the Western Cape to transition towards a more **inclusive, productive and resilient economic future**, so as to realize a vision of “a **highly-skilled, innovation driven, resource efficient, connected, high opportunity and collaborative society**”. For each of these societal attributes aspired to, OneCape 2040 identifies the ‘big step’ changes (i.e. transitions) that need to take place.

2.6.2. Provincial Strategic Plan 2014

Proceeding from the platform created by the OneCape 2040 vision and seeking to work towards realising the objectives of the NDP, the Provincial Strategic Plan (PSP) sets out the Western Cape’s strategic priorities for the years 2014 to 2019. These are embodied in five Provincial Strategic Goals (PSGs) as illustrated in Figure 8.

2.6.3. The Western Cape Land Use Planning Act (LUPA Act 3 of 2014)

Along with SPLUMA, the Western Cape Land Use Planning (LUPA – Act 3 of 2014) also came into effect in July 2015 and is, similarly, framework legislation that is in line with the national Act and serves to guide, direct and/or oversee and support the activities of spatial planning and land use management in the Western Cape Province at Provincial and Local Government spheres.

As is the case with Chapter 2 (Section 7) of SPLUMA, Chapter 6 (Section 58) of LUPA legislates a set of mandatory “Land Use Planning Principles”, which are, in effect, the same as the SPLUMA Development Principles.

However, as Provincial legislation, LUPA also makes provision for Provincial spatial planning and land use management and, in Chapter 5 (Section 53) makes provision for certain categories of land development applications (principally related to agricultural land but also relevant to cases where the scale of a land development is deemed to “have a substantial effect” on orderly development at a Provincial or regional scale, to be subject to Provincial approvals.

Finally, LUPA plays an important role in establishing minimum standards in respect of Spatial Planning, and provides for minimum norms and standards to be made applicable to municipal development management.



Figure 8. The 5 Western Cape Provincial Strategic Goals

2.6.4. The Western Cape Infrastructure Framework (2013)

The Western Cape Infrastructure Framework (WCIF) is “intended to align the planning, delivery and management of infrastructure provided by all stakeholders (national government, provincial government, local government, parastatals and the private sector) to the strategic agenda and vision for the province” (WCIF, May 2013).

In formulating the WCIF, two “development agendas” were tested and modelled: a Business as Usual Agenda and an Optimised Agenda, the latter of which requires of the stakeholders involved in the planning and delivery

of key infrastructure (Water, Energy, Transport, ICT and Settlement-related) to implement key transitions in the systems they develop and maintain. Table 1 sets out these transitions.

2.6.5. The Western Cape Provincial Land Transport Framework (2013 Update)

The PLTF sets out a long term vision for transport in the Western Cape and sets the following targets for the transport system in the Western Cape by 2050:

1. Fully Integrated Rapid Public Transport Networks (IRPTN) in the higher- order urban centres of the Province.
2. Fully Integrated Public Transport Networks (IPTN) in the rural regions of the Province
3. A safe public transport system
4. A well maintained road network
5. A sustainable, efficient, high speed, long distance rail network (public and freight transport) with links to the Northern Cape, Gauteng and the Eastern Cape
6. An efficient international airport that links the rest of the world to the choice gateway of the African continent
7. International-standard ports and logistics systems
8. A transport system that is resilient to peak oil.

Table 3. Key Transitions per sector as proposed by Western Cape Infrastructure Framework

SECTOR	WCIF PROPOSED TRANSITIONS
ENERGY	<ul style="list-style-type: none">• Introduce natural gas processing infrastructure to use gas as a transition fuel.• Promote the development of renewable energy plants in the Province and associated manufacturing capability.• Shift transport patterns to reduce reliance on liquid fuels.
WATER	<ul style="list-style-type: none">• Have more stringent water conservation and demand-management initiatives, particularly at municipal level.• Develop available groundwater resources.• Adopt more widely the reuse of wastewater effluent as standard practice.• Adopt large-scale desalination once it becomes the “next best” option to resolve inevitable water shortages in Saldanha Bay, Cape Town and the southern Cape.• Expand and diversify agriculture to increase availability of surface water but reduce the water intensity of the sector, given the limited availability of water for irrigation.
TRANSPORT	<ul style="list-style-type: none">• Invest in public transport and non-motorised transport (NMT) infrastructure, particularly in larger urban centres.• Prioritise general freight rail over bulk freight.• Shift freight traffic from road to rail along major routes.
SETTLEMENT	<ul style="list-style-type: none">• Continue to provide basic services to achieve national targets.• Diversify the housing programme, with greater emphasis on incremental options.• Integrate settlement development, prioritising public service facilities in previously neglected areas.• Improve energy efficiency in buildings through design standards.• Consolidate management of state land and property assets for optimal use.• Distribute health and education facilities equitably.• Innovate in the waste sector to increase recycling and reuse, including the adoption of waste-to-energy in the longer term.
ICT	<ul style="list-style-type: none">• The availability of a strong broadband infrastructure network is central to efficient communications and internet services and will play a key role in achieving the Provincial objectives.

2.6.6. Provincial SDF 2014

Aligning with OneCape 2040 and the five PSGs, the Western Cape's Provincial SDF (PSDF) sets out the key strategic spatial transitions required to achieve a more sustainable use of provincial assets, the opening-up of opportunities in the space-economy, and sustainable settlements. The PSDF is framed to take forward the NDP's spatial agenda with respect to urban and rural transformation, improving infrastructure, and building environmental sustainability and resilience and is, accordingly, centered around 5 guiding principles:

1. **Spatial Justice:** Redressing past spatial and other development imbalances through improved access to and use of land by disadvantaged communities.
2. **Sustainability and Resilience:** Spatially compact, resource-frugal land development compatible with cultural and scenic landscapes, that protects agricultural land while building capacity to withstand shocks and disturbances such as climate change or economic crises.
3. **Spatial Efficiency:** Compact mixed use settlements with residential areas close to work opportunities and the prioritisation of public transport.
4. **Accessibility:** Improving access to services, facilities, employment, training and recreation, and safe and efficient transport modes.
5. **Quality and Liveability:** Quality built environments that are legible, diverse, varied and unique; that offer a variety of opportunities, experiences and choice.

In adopting a strategic view of the provincial space economy, the PSDF identified three functional regions where significant development trends and/or development potentials were seen to exist. One of these functional regions is the emerging Greater Saldanha Regional Industrial Complex, with the Saldanha Bay/Vredenburg growth centre at its heart. This Greater Saldanha Region (GSR) is noted as experiencing a wide range of developmental and environmental initiatives driven by an array of role-players. Bergrivier Municipality falls within this functional region and is to be considered within this strategic context (see Figure 9).

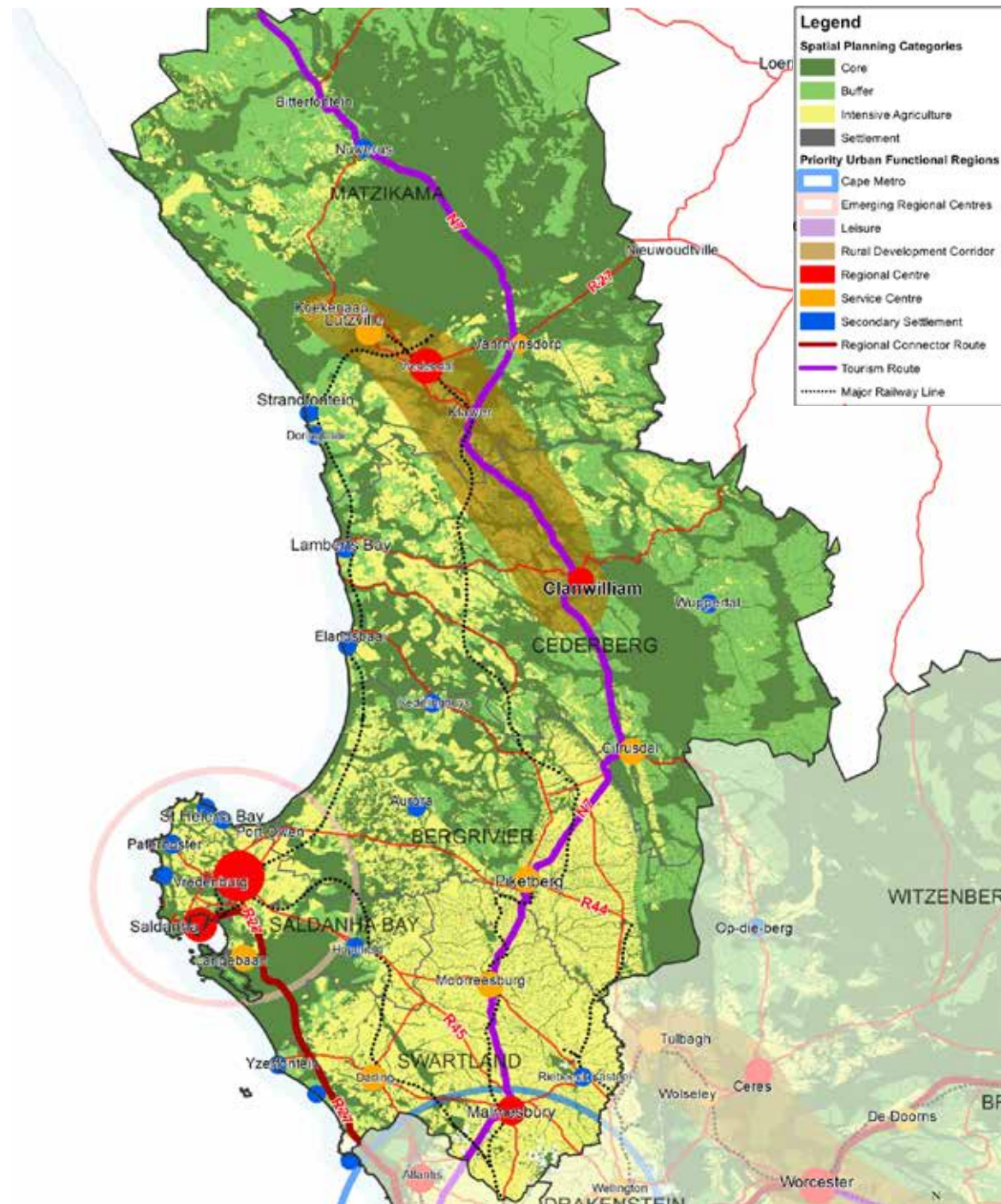


Figure 9. Composite proposal for the West Coast District from the 2014 PSDF

Background and Purpose

The Regional Socio-Economic (RSEP) Programme is an intergovernmental Programme of the Western Cape Government. The primary goal of the Programme is urban upgrading and renewal focusing on previously disadvantaged neighbourhoods through pro-poor and social upliftment interventions and to address the legacies of spatial segregation. This is done by implementing physical projects that will have an immediate impact and demonstrate “what can be done” in order for municipalities to mainstream this directive in their normal day-to-day- work and future planning initiatives and budgeting processes. In addition, non-physical projects are also undertaken (e.g. precinct planning, urban design, and facilitating partnerships and collaboration).

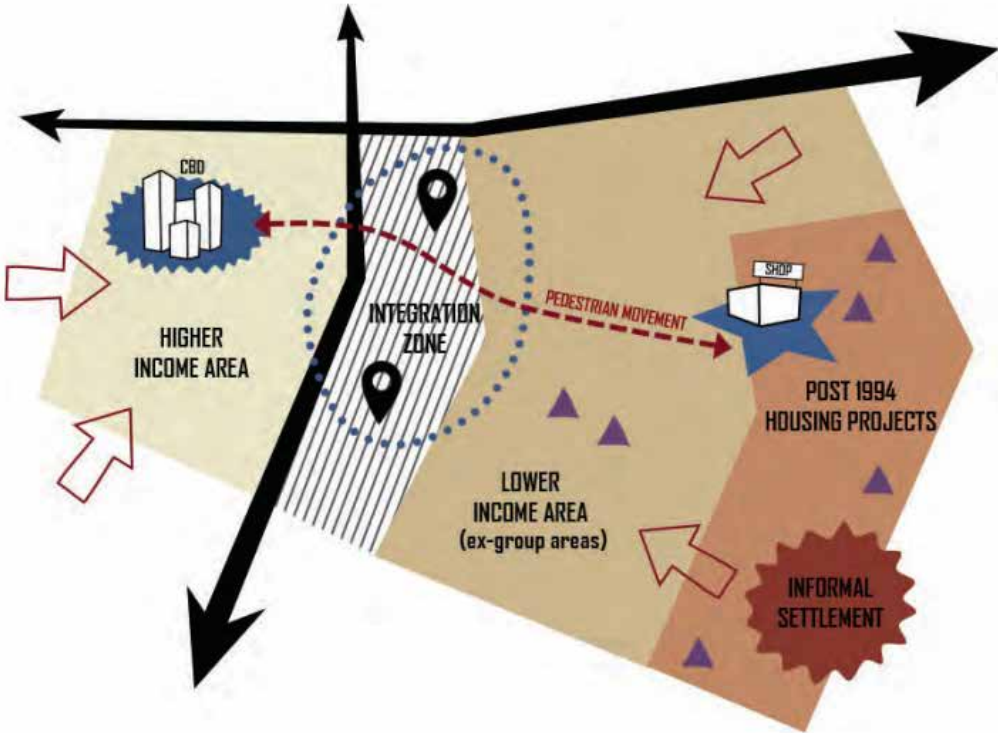
The Programme also aims to promote a “Whole-of-Society” Approach which envisions provincial and local government partnering with active citizens, communities and stakeholders to promote social and economic inclusion; and furthermore to land a “Whole-of-Government” Approach to enhance planning-led budgeting through coordinated multi-sector spending in the Province. The Programme is therefore focused on bringing together a range of stakeholders, both local, provincial, national and private, in order to achieve effective and efficient joint planning and implementation at the local level and to improve quality of life of and in communities.

Reconstruction Framework

One of the key deliverables developed by the RSEP Programme to be utilized and implemented as a new directive by the municipalities, is a “Reconstruction Framework” for their towns, which can be used as a ‘Toolkit’ for upgrading and integration.

The Framework comprises of a model that investigates the town structure in terms of the impact of apartheid planning, post-apartheid housing developments and the current location of poor communities and their relationship and interaction with the rest of the town. It is aligned to a number of policies such as the IUDF, the NDP and the Provincial SDF. Figure 10 sets out a brief description of the Reconstruction Framework and its components.

Figure 10. The RSEP Reconstruction Framework



COMPONENTS OF TOOLKIT

-  **PEDESTRIAN ROUTE: *DIGNIFY, MAKE SAFE, SHORTER***
 -  **TRANSITION/INTEGRATION ZONE: *MAKE HUMAN FRIENDLY / SAFE; "STITCH TOGETHER"***
 -  **STRATEGIC VACANT LAND: *DEVELOP WITH INTEGRATION IN MIND***
 -  **PROVIDE CLUSTERED FACILITIES, STRENGTHEN NODES**
 -  **PROVIDE AFFORDABLE NEIGHBOURHOOD FACILITIES**
 -  **ADVOCATE COMPACTION AND DENSIFICATION**
- + ACKNOWLEDGE INFORMALITY**

2.6.8. Western Cape Biodiversity Spatial Plan 2017

The 2017 Western Cape Biodiversity Spatial Plan (WCBSP) compiled by CapeNature and DEA&DP provides a broad Environmental Management Framework (EMF) based on a modern systematic conservation planning approach that identifies Critical Biodiversity Areas in the most spatially efficient and ecologically functional configuration.

The plan encompasses both terrestrial and aquatic systems, protected areas, threatened ecosystems and special habitats. The globally accepted, defensible and repeatable methodology identifies the most compact possible locations to provide representation of all ecosystem types, key biodiversity features, important areas for the delivery of valued ecosystem services, and provide for ecological function and connectivity. Conflict with economic activity and productive land-use is explicitly avoided wherever possible. Protection of ecological infrastructure that provides ecosystem services like water delivery and flood protection is a key requirement of this planning approach.

The WCBSP is viewed as a fundamental tool informing the formulation of spatial proposals for the Bergrivier Municipal SDF and also provides guidance in respect of the formulation of Spatial Planning Categories and related land use management guidelines, as core content elements of a strategic spatial planning approach.

BSP Category	Protected Areas	CBA 1	CBA 2	ESA 1	ESA 2	ONA	NNR
SPC							
Core 1							
Core 2							
Buffer 1							
Buffer 2							
Intensive Agriculture							
Settlement							
Industry & Existing Mining							

Figure 11. Categories on the Biodiversity Spatial Plan Map and their recommended corresponding Spatial Planning Category

MAP CATEGORY	DEFINITION	DESIRED MANAGEMENT OBJECTIVE	SUB-CATEGORY
Protected Area	Areas that are proclaimed as protected areas under national or provincial legislation.	Must be kept in a natural state, with a management plan focused on maintaining or improving the state of biodiversity. A benchmark for biodiversity.	n/a
Critical Biodiversity Area 1	Areas in a natural condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a natural or near-natural state, with no further loss of habitat. Degraded areas should be rehabilitated. Only low-impact, biodiversity-sensitive land uses are appropriate.	CBA: River CBA: Estuary CBA: Wetland CBA: Forest CBA: Terrestrial
Critical Biodiversity Area 2	Areas in a degraded or secondary condition that are required to meet biodiversity targets, for species, ecosystems or ecological processes and infrastructure.	Maintain in a functional, natural or near-natural state, with no further loss of natural habitat. These areas should be rehabilitated.	CBA: Degraded
Ecological Support Area 1	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services.	Maintain in a functional, near-natural state. Some habitat loss is acceptable, provided the underlying biodiversity objectives and ecological functioning are not compromised.	ESA: Foredune ESA: Forest ESA: Climate Adaptation Corridor ESA: Coastal Resource Protection ESA: Endangered Ecosystem ESA: River ESA: Estuary ESA: Wetland ESA: Watercourse Protection ESA: Water Source Protection ESA: Water Recharge Protection
Ecological Support Area 2	Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of PAs or CBAs, and are often vital for delivering ecosystem services.	Restore and/or manage to minimise impact on ecological infrastructure functioning; especially soil and water-related services.	ESA: Restore from NN
ONA: Natural to Near-Natural	Areas that have not been identified as a priority in the current systematic biodiversity plan, but retain most of their natural character and perform a range of biodiversity and ecological infrastructure functions. Although they have not been prioritised for biodiversity, they are still an important part of the natural ecosystem.	Minimise habitat and species loss and ensure ecosystem functionality through strategic landscape planning. Offers flexibility in permissible land uses, but some authorisation may still be required for high-impact land uses.	ONA: Natural to Near-Natural ONA: Degraded
No Natural Remaining	Areas that have been modified by human activity to the extent that they are no longer natural, and do not contribute to biodiversity targets. These areas may still provide limited biodiversity and ecological infrastructure functions, even if they are never prioritised for conservation action.	Manage in a biodiversity-sensitive manner, aiming to maximise ecological functionality. Offers the most flexibility regarding potential land uses, but some authorisation may still be required for high-impact land uses.	No Natural Remaining

Figure 12. Summary of the WCBSP map categories and their meanings and management objectives

2.7. District Objectives

2.7.1. West Coast District SDF 2014

The West Coast District Municipality (WCDM) SDF is based on three overarching themes with spatial proposals, strategies and policies relating directly to these three themes and their associated sub-themes:

1. Built Environment: Enhance the capacity and quality of infrastructure in the areas with the highest economic growth potential, whilst ensuring continued provision of sustainable basic services to all residents in the District.
2. Socio-Economic: Facilitate and create an enabling environment for employment, economic growth and tourism development, while promoting the access to public amenities such as education and health facilities.
3. Biophysical: Enhance and protect the key biodiversity and agricultural assets in the district and plan to minimise the human footprint on nature, while also mitigating the potential impact of nature (climate change) on the residents of the district.

The spatial vision for the SDF is to create a “quality destination of choice through an open opportunity society”. Spatial proposals are centered around promoting sustainable development, prioritising development in highest growth potential areas, and facilitating development along key corridors. The plan identifies 3 focus areas in the WCDM for prioritised future development:

1. The Major Regional Growth Centre of Saldanha/Vredenburg;
2. The Lower N7 Regional Development Corridor; and
3. A Northern Rural Development Corridor along the Olifantsriver

Bergervier forms part of the regional N7 corridor with Piketberg as the northern “gateway” to this corridor. Velddrif/Laaipek and Porterville are also identified as sub-regional nodes, with Velddrif situated along the proposed West Coast tourism route (see Figure 13).

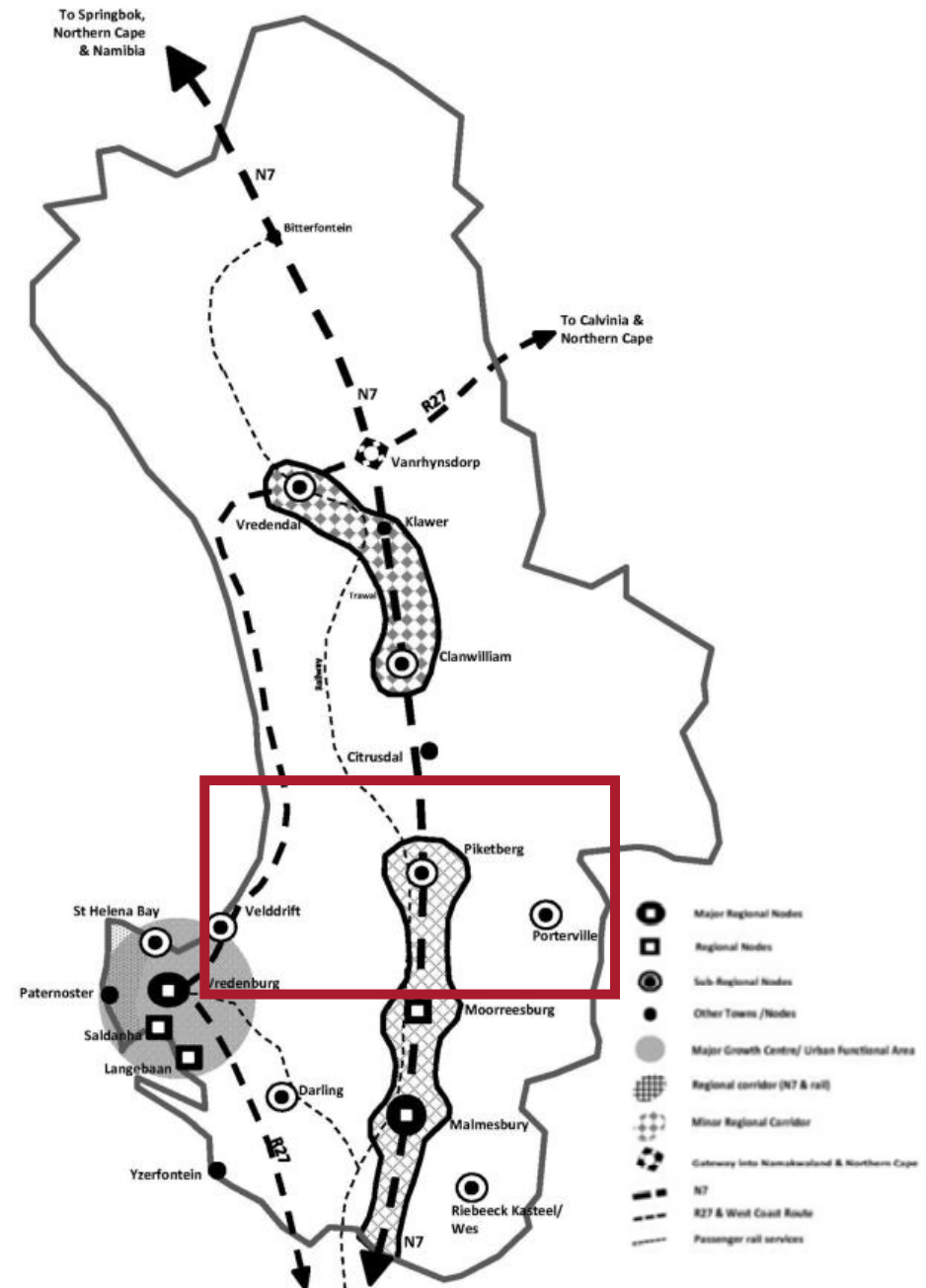


Figure 13. The WCDM SDF conceptual framework

2.7.2. WCD Rural Development Plan 2017

The West Coast District Rural Development Plan (WCDRDP) was prepared to ease integration of the Agri-Park Initiative and accompanying Department of Rural Development and Land Reform (DRDLR) projects into Local Municipal IDPs and SDFs. It also aims to assist municipalities and other sector departments to invest in a coordinated manner in order to enable the development and functioning of the West Coast District Agri-Park.

An Agri-Park is defined as being a networked innovation system (not only physical buildings located in single locations) of agri-production, processing, logistics, marketing, training and extension services, located in District Municipalities. As a network, it enables the growth of market-driven commodity value chains and contributes to the achievement of the DRDLR's rural economic transformation model.

An Agri-Park comprises of three basic units:

1. A district-scale Agri-Hub Unit: a production, equipment hire, processing, packaging, logistics and training (demonstration) unit, typically located in a larger agricultural service centre.
2. A local-scale Farmer Production Support Unit (FPSU): a rural outreach unit connected with an Agri-Hub that does primary produce collection, some storage, some processing for the local market, and provides extension services including mechanisation.
3. The Rural Urban Market Centre Unit (RUMC): typically located in a higher order urban centre with three main purposes; linking and binding together roleplayers in rural, urban and international markets through contracts; acts as a holding-facility, releasing produce to urban markets based on seasonal trends; and provides market intelligence and information feedback to the network of FPSUs and the Agri-Hub.

Figure 14 sets out the various locations of the West Coast Agri-Park components as set out in the Agri-Park Master Plan. Piketberg has been identified as a FPSU to serve a catchment area that includes Wittewater (11 km), Goedverwacht (22 km) and Eendekuil (33 km)) and to support emerging farmers that produce vegetables, rooibos tea and meat commodities in this catchment area (see Figure 15).

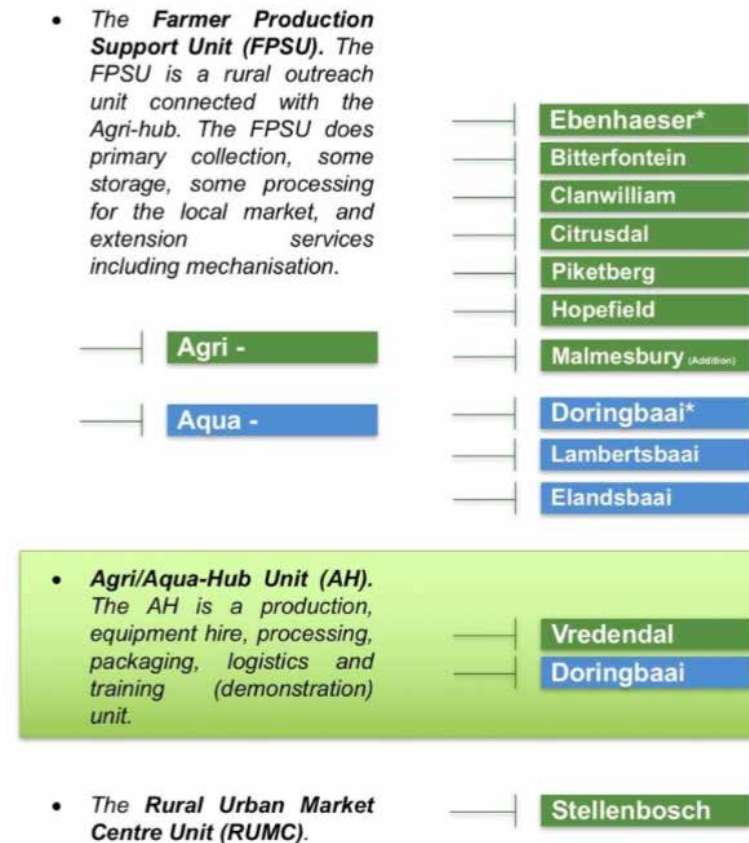


Figure 14. Schematic Outline of the Proposed Components of the West Coast District Agri-Park

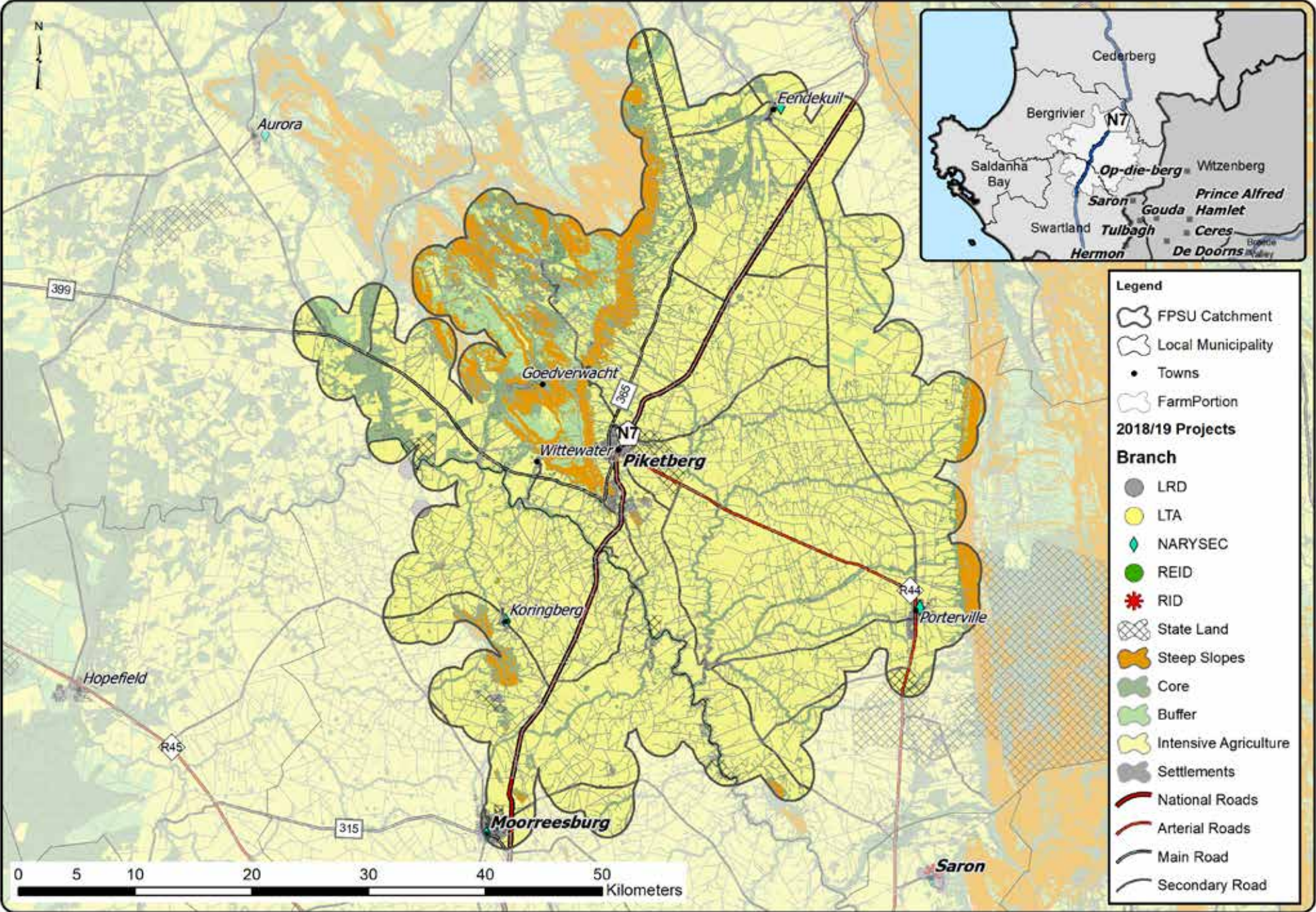


Figure 15. Piketberg FPSU Catchment Area and Spatial Targeting (DRDLR 2019)

2.7.3. Alignment with Surrounding SDFs

In order to identify key areas or issues of alignment in respect of surrounding municipal areas, neighbouring Municipal SDFs were consulted and the following is highlighted:

2.7.3.1 Cederberg SDF 2017-2022 (2017)

- Regional CBA Network/Climate Change Corridors (Development Proposal 2 & 3; expand Cederberg Nature Reserve & establish Conservation Corridor)
- Verlorenvlei linkages (Development Proposal 3: Develop Precinct Plan for Verlorenvlei)
- Impact of increasing heavy vehicle haulage on coastal route from Elandsbaai mines past Dwarskersbos and through Velddrif to Saldanha Bay

2.7.3.2 Witzenberg SDF (2012)

- Porterville to Worcester (N1) Route
- Potential influence/impact of influx/migration into Ceres and Tulbagh areas (R44/R46 link)

2.7.3.3 Drakenstein SDF (2015)

- Porterville to Worcester (N1) Route
- Link to Saron and implications of proximity of Porterville as a service centre

2.7.3.4 Swartland SDF 2017-2022 (2017)

- N7 corridor
- Berg River boundary

2.7.3.5 Saldanha Bay SDF (2011)

- Saldanha Bay/Vredenburg Regional Economic Hub and impacts of linkages to Velddrif/Laaipelek (local development trends)
- Regional CBA Network/Climate Change Corridors
- Potential linkage to proposed Walking/Cycling Trail stretching southward to Tabakbaai (Diazville)

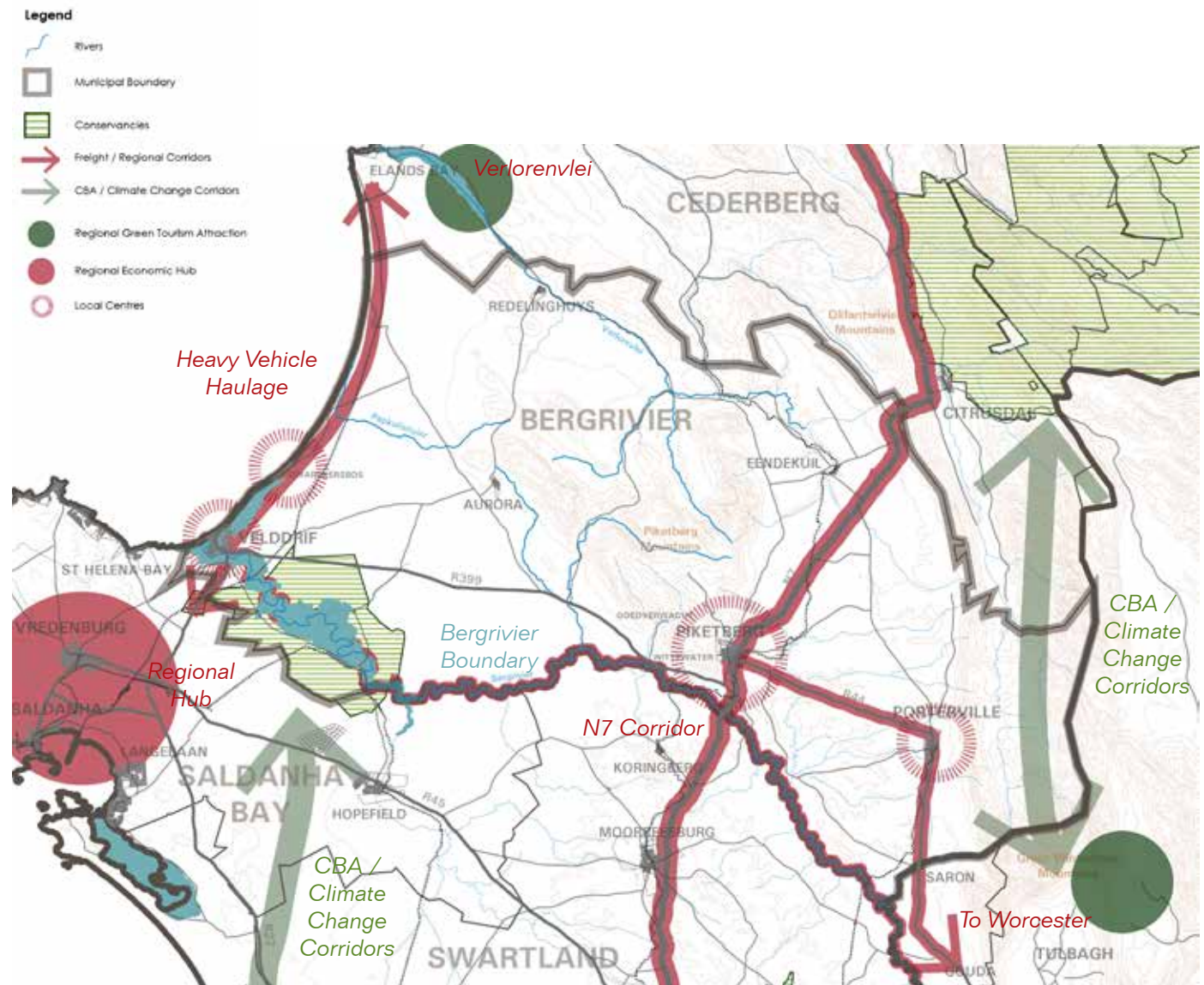


Figure 16. Spatially highlighting the implications of surrounding SDFs and frameworks on the Bergrivier area

2.8. Municipal Objectives and Vision

2.8.1. 2017 Integrated Development Plan

The Fourth Generation Integrated Development Plan (IDP) for the Bergrivier Municipality was approved by Council on 30 May 2017. The IDP was developed through a participatory process to develop the strategic plan that guides all planning, budgeting, management and decision-making in the municipality.

The IDP remains a high-level strategy that links the IDP goals and strategic objectives to functional development priorities. Development priorities derive from community needs, institutional needs and the Municipal Frameworks and Sector plans and has been captured in a vision and mission statement for the municipality:



The IDP is structured around 5 Strategic Goals. These goals and objectives have been aligned with the National and Provincial strategic goals and contains game changers identified by the municipality to ensure that certain areas enjoy dedicated attention and will have an impact on addressing developmental aspects.

- **Strategic Goal 1:** Strengthen Financial Sustainability and further enhancing Good Governance
- **Strategic Goal 2:** Sustainable service delivery
- **Strategic Goal 3:** Facilitate an enabling environment for economic growth to alleviate poverty.
- **Strategic Goal 4:** Promote safe, healthy, educated and integrated communities
- **Strategic Goal 5:** A sustainable, inclusive and integrated living environment

Strategic Goal 5 calls for the development, management and regulation of the built environment through 100% enforcement of building regulations and includes priority game changers such as lawful and dignified services to backyard dwellers, supporting the RSEP programme in Piketberg, and facilitating the implementation of the Precinct Plans for Velddrif and Porterville. Conserving and managing the natural environment and mitigating the impacts of climate change are also encouraged through aiming for a zero-carbon footprint municipality.

The Fourth Generation IDP is characterized by a concerted effort to ensure that the IDP and the budget are aligned and that the needs identified by the communities are reflected in the budget. The SDF will thus aim to align IDP budgeting with spatial interventions and proposals for each of the identified focus areas.

Table 4. Other local policies and plans relevant in terms of policy and vision directives

Other Relevant Local Policies and Plan	Status
WCDM Integrated Transport Plan 2015 - 2020	Reviewed October 2015
Bergrivier Community Safety Plan 2014	Approved on 24 June 2014
Bergrivier Climate Change Adaption Plan 2014	Approved in March 2014
Local Biodiversity Strategy and Action Plan 2011	Approved in 2016/17
Bergrivier Human Settlements Pipeline 2012	Approved in August 2012 and valid for 10 years
Bergrivier LED Strategy 2010	Approved in May 2015
Bergrivier Integrated Coastal Management Plan	Adopted by Council in 2014/15
Bergrivier Municipal Infrastructure Plan	Adopted by Council in November 2014. Updated project programme endorsed by Mayco in September 2018

2.9. Conceptual Approach to Spatial Development in Bergrivier

2.9.1. Synthesis of Legal, Policy and Existing Plan Informants

Figure 17 below illustrates how the above key legal, policy and plan informants are synthesised to highlight the core objectives flowing from their strategic guidance, for the purposes of the Bergrivier IDP and Municipal SDF.

Whilst not all of these core messages are directly spatial in content, when taken together with the direction from the SPLUMA and LUPA Principles, they require that, where possible, enabling spatial development and land use management proposals, policies and guidelines be

formulated to facilitate the effort to progressively resolve the challenges that these core messages seek to respond to. As such, these core messages form the basis for the formulation of a short-term and a longer-term spatial development concept as set out further herein.

2.9.2. Translating the Legal and Policy Directives into a Spatial Development Concept

Based on the policy directives drawn from the array of international, national, provincial and municipal-scale legal and policy instruments, the Bergrivier Municipality's draft conceptual approach to spatial development and land use management seeks to embody its IDP Vision and enable the realization of this Vision by focusing on:

- Pursuing social and spatial justice by seeking to promote spatial transformation and the integration of its settlements wherever possible and within available means
- The promotion of key linkages to hinterland areas where synergistic development processes may be possible
- A focus on a sustainable investment strategy for the development of infrastructure and facilities that are necessary to underpin social and economic development
- The wise management of:
 - land and natural resources
 - Heritage and cultural landscapes

NDP 2030	IUDF	SPLUMA	PSDF	WCD SDF	IDP & SDF
• safer communities	• social cohesion	• eliminate poverty	• redress imbalances	• open society	• alleviate poverty
• integrated neighbourhoods	• spatial transformation	• eliminate inequality	• spatially compact development	• more integrated infrastructure	• integrated communities
• education and training	• skills development and training	• high-employment economy	• optimise and grow existing resources	• tourism economy and growth	• enabling environment
• capable developmental state	• effective governance	• cooperative governance	• partnership based governance	• enabling environment	• financial stability good governance
• inclusive rural economy	• access to opportunities	• inclusive growth	• highly skilled innovation driven	• access to health and education	• facilitate economic growth
• engaging private sector in housing	• targeted investments into human settlements	• improved tenure for disadvantaged communities	• improved access to land for communities	• sustainable basic services to all communities	• dignified services to backyard dwellers
• environmental sustainability	• resource efficiency	• mitigation and adaptability	• mitigation and adaptability	• minimise human footprint on nature	• zero carbon footprint

Figure 17. Aligning the Bergrivier's Vision with National, Provincial and District principles

3.

Spatial Challenges and Opportunities



3. Spatial Challenges and Opportunities

This section of the report aims to provide a strategic yet holistic overview of the spatial challenges and opportunities for the municipal area. The “snapshot analysis” is structured within three overarching all-encompassing substantive themes, namely the biophysical, socioeconomic and built environment. Figure 18 unpacks the substantive focus of each of these themes.

At the municipal scale the following elements were considered for the purpose of the status quo research:

1. Biophysical:

- Rural landscapes and Agriculture
- Biodiversity and Climate Change
- Cultural Landscapes and Topography

2. Socio-Economic:

- Urban rural migration patterns and Demographic trends
- Regional and Local Economic Infrastructure
- Space Economy
- LED and Employment Trends
- Cultural Heritage and Tourism
- Social Facilities and Services

3. Built Environment:

- Settlement Hierarchy, role and function
- Land Use Patterns and Growth Trends
- Built Heritage
- Movement and Transport
- Services and Infrastructure
- Housing

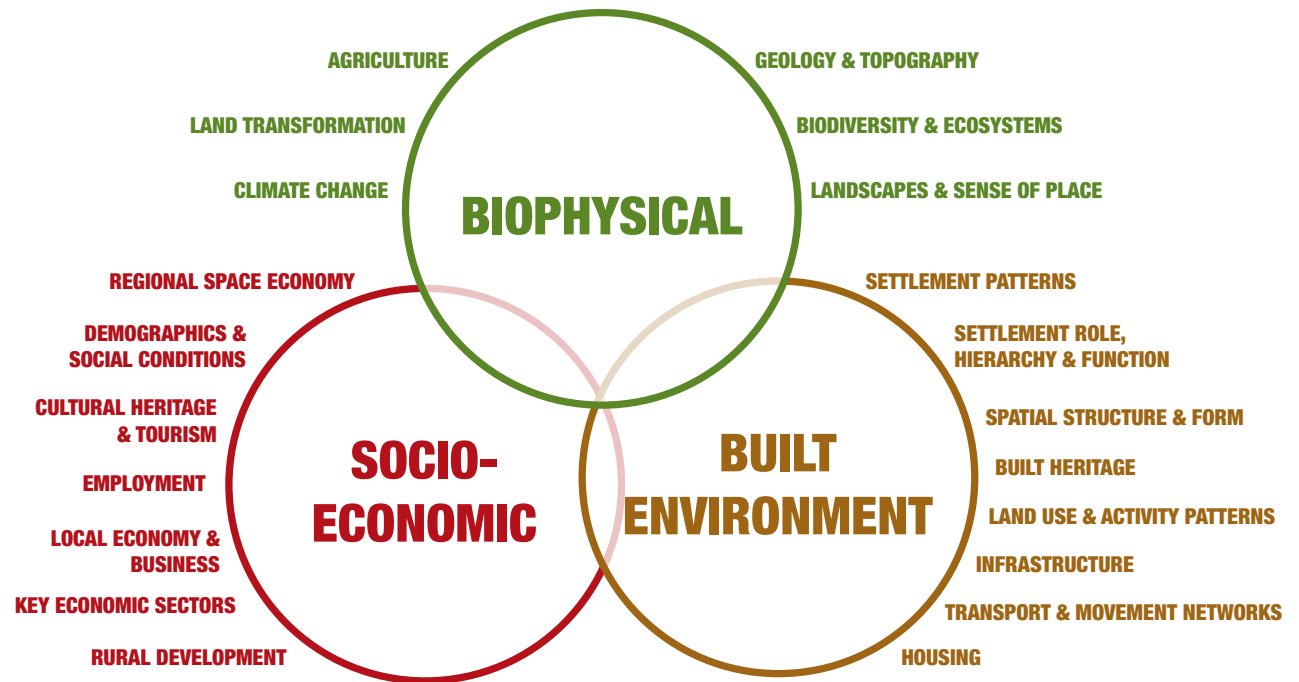


Figure 18. The 3 SDF themes and their associated sub-elements as defined by the DRDLRs SDF Guidelines

3.1. Biophysical Analysis

3.1.1. Overview

3.1.1.1 Biodiversity and Ecosystems

Bergervier Municipality encompasses 440 876 hectares with unique and complex geology, soils, landforms, climate and resulting ecosystems. 80% of the municipality is relatively flat lowland. The coastal plain is the unique West Coast Sandveld that extends north into Cederberg Municipality. Inland, separated from the sandy coastal plain by the Piketberg Mountain Ranges, is the northern tip of the Swartland wheat farming areas. The inland municipal boundary runs along the lower slopes of the Olifants River Mountains and includes a section of the Groot Winterhoek Mountains in the south.

Bergervier Municipality falls within the Cape Floristic Region, the richest non-tropical biodiversity hotspot in the world. It is a unique and complex landscape, with typical Cape levels of species richness, high numbers of ecosystem types, and localised plant and animal species.

Landscape variability is expressed by ecosystems mapped within the South African Vegetation Map (2012). Broad variation in substrate, climate and topography can be summarised at vegetation group level and is useful for visualising both the major environmental variation and habitat groupings, and the resulting agricultural and other land-uses.

Just over 58% of the total area of Bergervier has already been transformed through human intervention, most notably farming and settlement. In the lower lying areas nearly 71% of the landscape is transformed. Habitats most suitable for agriculture are all threatened. The most intensively developed areas are classified as being Critically Endangered, with remaining remnants of natural habitats representing less than the threshold value required to maintain a substantial proportion of original species and ecological function.

Coastal seashore and Dune Strandveld habitats have had some transformation from settlement and marginal

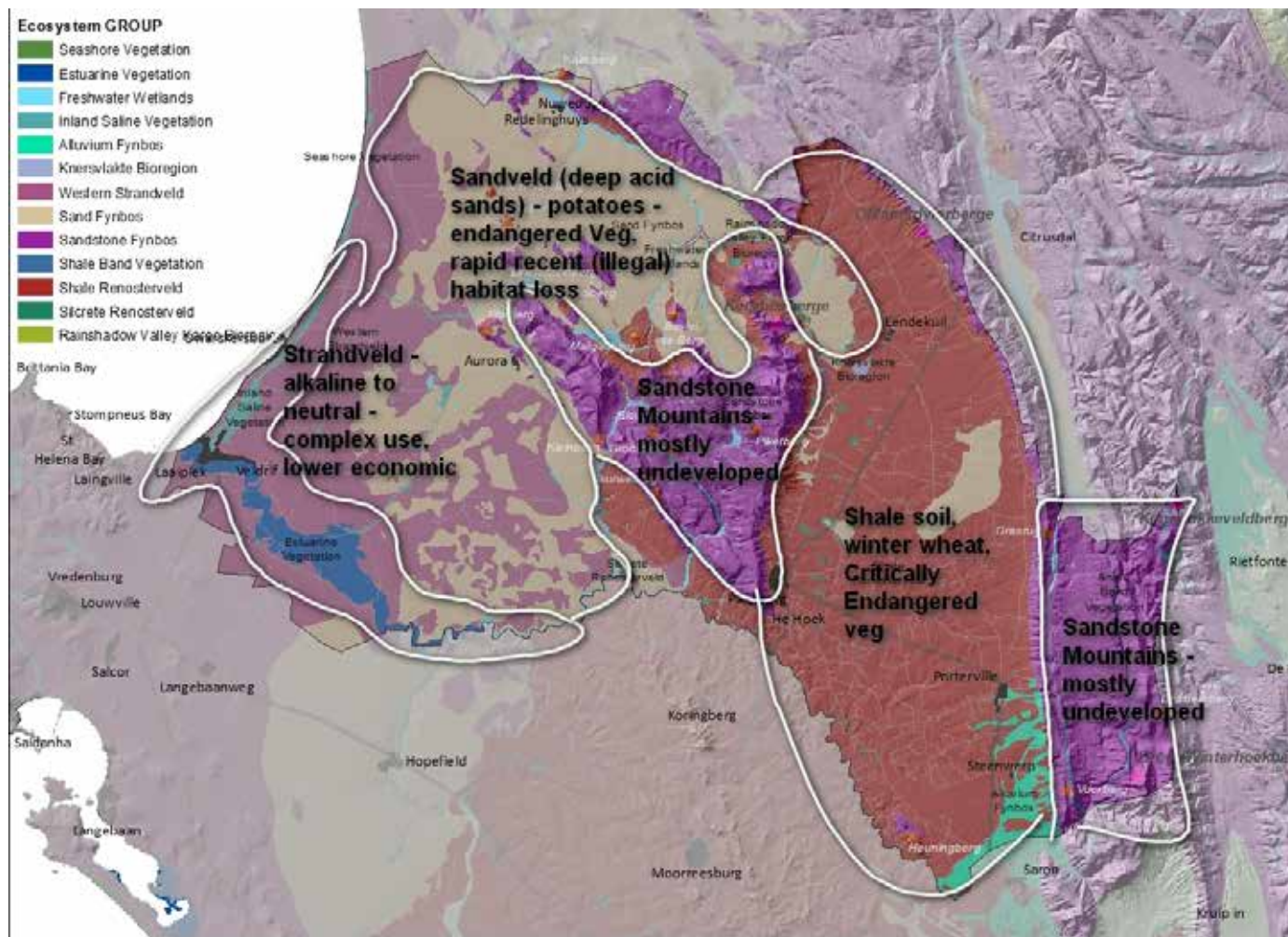


Figure 19. Landscape variability expressed by ecosystems and vegetation leads to the identification of 5 broader biophysical landscapes

agriculture but remain largely intact. Similarly, estuarine, wetland and salt pan habitat function has been severely impacted by surrounding land-use and water abstraction, but actual conversion from natural habitat of these types is limited. Mountain ecosystems within the municipality are least impacted by land-use, settlement and agriculture, with only 9% transformed.

Very little of the diversity of the Bergervier Municipality is conserved in formal Protected Areas. As is typical,

mountain ecosystems tend to be relatively better protected. A large portion of the 30,608 hectare Groot Winterhoek Wilderness Area protects nearly the entire extent of the natural 25 471 hectares of Winterhoek Sandstone Fynbos that falls within the municipal boundary. The 930 hectare Rocherpan Nature Reserve protects small areas of several systems, including a proportion of endangered Saldanha Flats Strandveld, and

is part of a wetland system that provides important bird habitat.

The 2017 Western Cape Biodiversity Spatial Plan (WC BSP) compiled by CapeNature and DEA&DP provides an Environmental Management Framework (EMF) based on a modern systematic conservation planning approach that identifies Critical Biodiversity Areas in the most spatially efficient and ecologically functional configuration. The plan encompasses both terrestrial and aquatic systems, protected areas, threatened ecosystems and special habitats. The globally accepted, defensible and repeatable methodology identifies the most compact possible locations to provide representation of all ecosystem types, key biodiversity features, important areas for the delivery of valued ecosystem services, and provides for ecological function and connectivity. Conflict with economic activity and productive land-use is explicitly avoided wherever possible. Protection of ecological infrastructure that provides ecosystem services like water delivery and flood protection is a key requirement of this planning approach.

Given the very high levels of transformation in the landscape, the 2017 WC BSP necessarily designates a large extent of the remaining natural lowlands as Critical Biodiversity Areas, essential for retaining biodiversity and ecosystem function, and providing landscape level ecosystem services and protection.

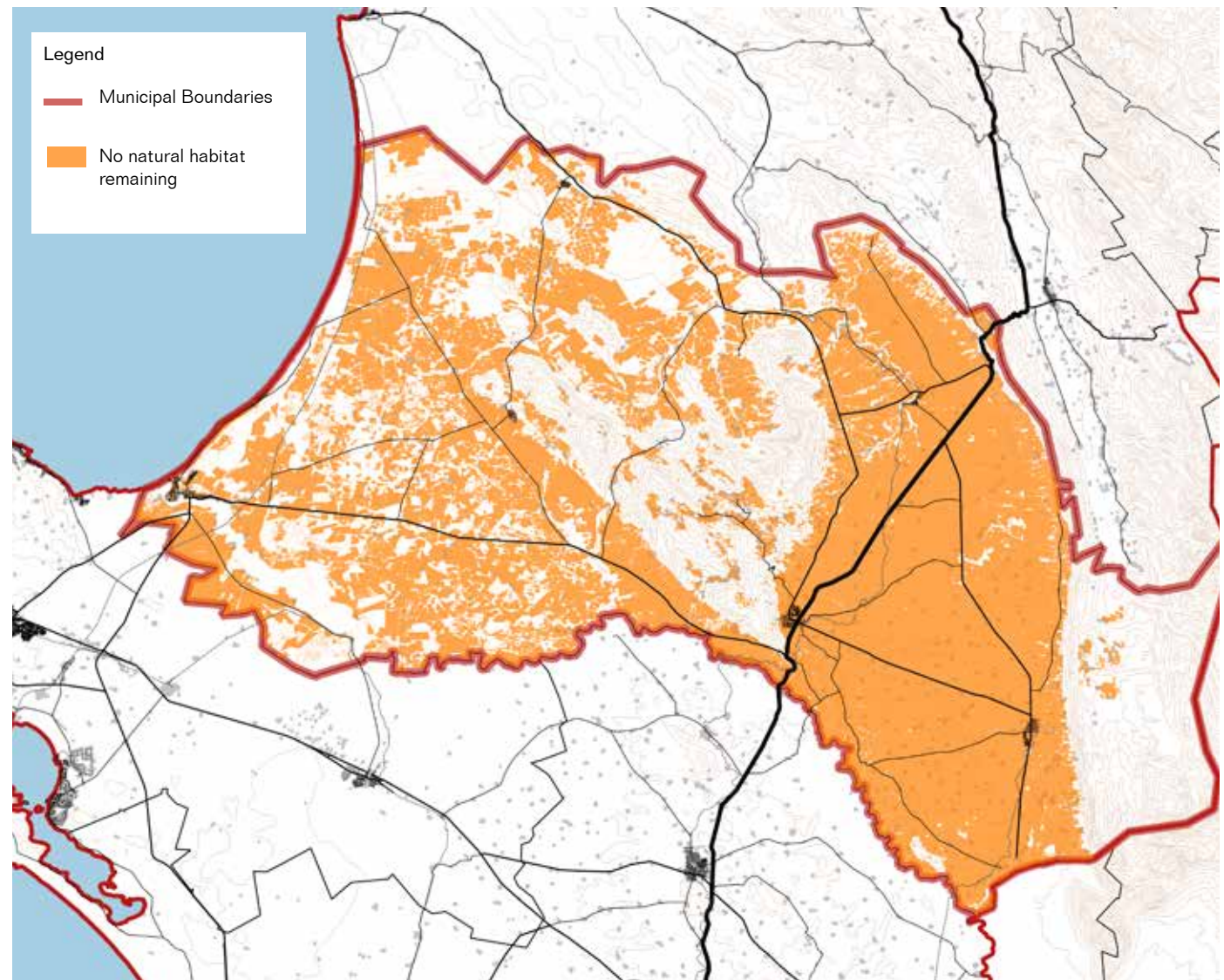


Figure 20. Map illustrating the large amount of area within Bergrivier Municipality where no natural habitat remains (orange areas)

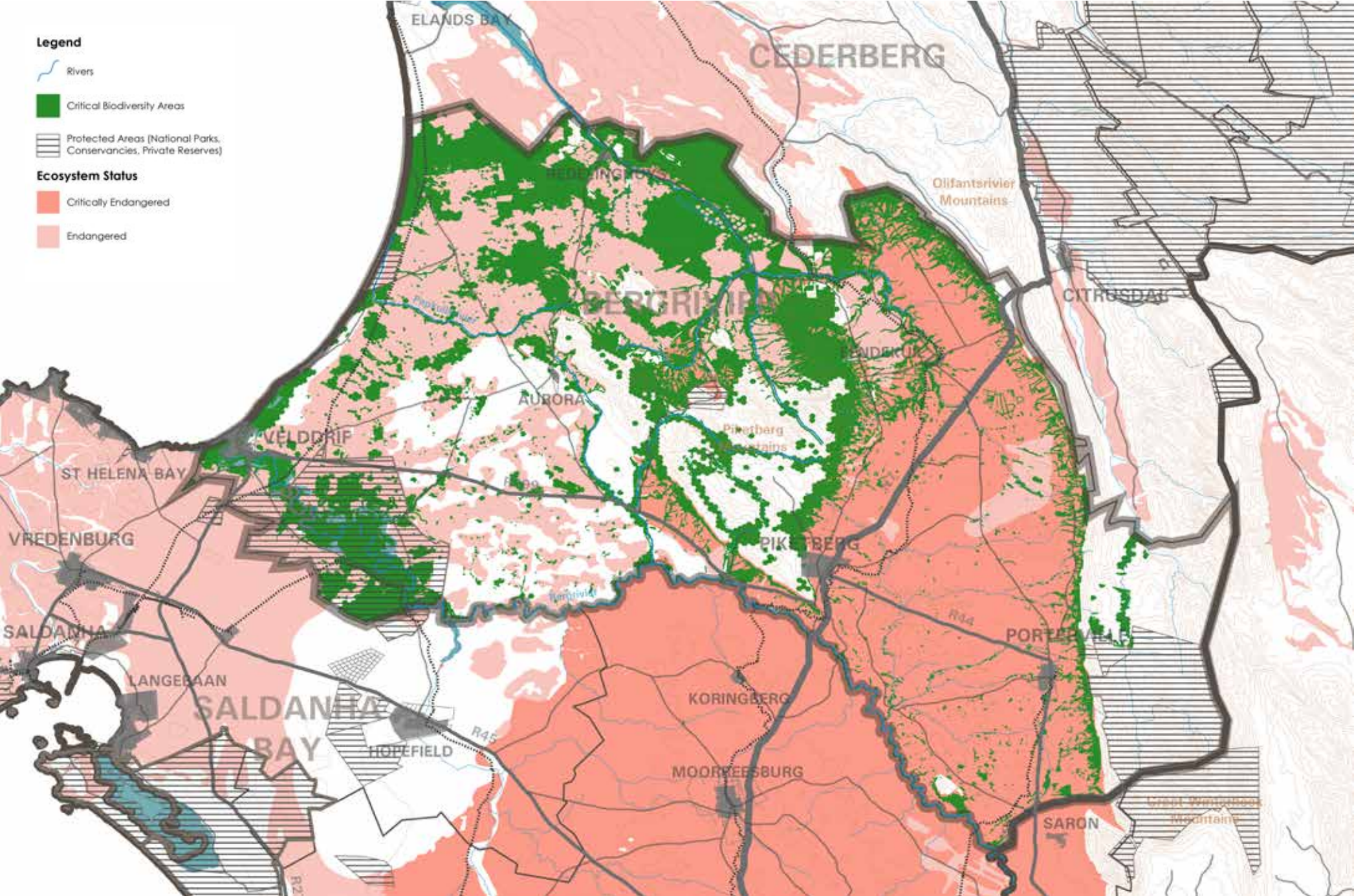


Figure 21. Critical Biodiversity Areas compared to ecosystem status and protected areas

3.1.1.2 Coastal Management Lines

Globally there has been increasing recognition that inappropriate development in high risk and sensitive coastal and estuarine environments comes at huge public cost that far exceeds any short-term tourism or development value. This is recognised in South Africa's Integrated Coastal Management Act (2008) which provides a regulatory framework including guiding better development and management of the coastal zone, for example by providing for:

- Controlling inappropriate development and other adverse effects, including pollution
- Promoting ecologically, socially and economically sustainable development and resource use.
- Maintaining the natural attributes of coastal landscapes and seascapes
- Promotion of conservation of the coastal environment.

Arising from the ICM Act, The Western Cape Integrated Coastal Management Programme has developed Coastal Management Lines for coastlines and estuaries throughout the province, with those for the West Coast District completed in 2014 (confirm final date!). Three planning lines along the coast are demarcated: a physical processes/hazard line, a coastal management/set-back line(s), and the coastal protection zone. The lines are based on a combination of expert scientific work, including detailed topographic data and hydrological modelling and any previous studies. The process included thorough public participation and took account of anecdotal evidence and local knowledge where appropriate. These fine-scale, evidence based Coastal Management Lines were not available to previous SDFs and must be appropriately updated and properly taken up in this current 2018 update of the Bergriver SDF.

Within the Bergriver Municipality, the sandy coastline and estuarine environment are both subject to highly dynamic coastal processes of erosion and deposition. Fortunately there has been relatively little development in high risk and very sensitive coastal and estuarine areas to date, other than Laaiplek and Velddrif. However, it is reported

that the number of buildings in high risk coastal areas in Bergriver increased from 54 in 2006 to 132 in 2013 (SOER Coasts and Oceans).

A key framework to be reflected in the Municipal SDF update and spatial outputs is the compliance with

the principles of the Integrated Coastal Management Act (2008), and Western Cape Integrated Coastal Management Programme – primarily in substantial reflection of the Coastal Management Lines (Set-back Lines), indicating coastal zones unsuitable for hard infrastructure development and settlement.



Figure 22. Storm damage in Laaiplek to the Sunset Restaurant - image was sent as part a media enquiry from the Weslander



Figure 23. Storm damage to the Strandkombuis Restaurant - June 2017

Figure 24. Storm damage to the Laaiplek harbour - June 2017

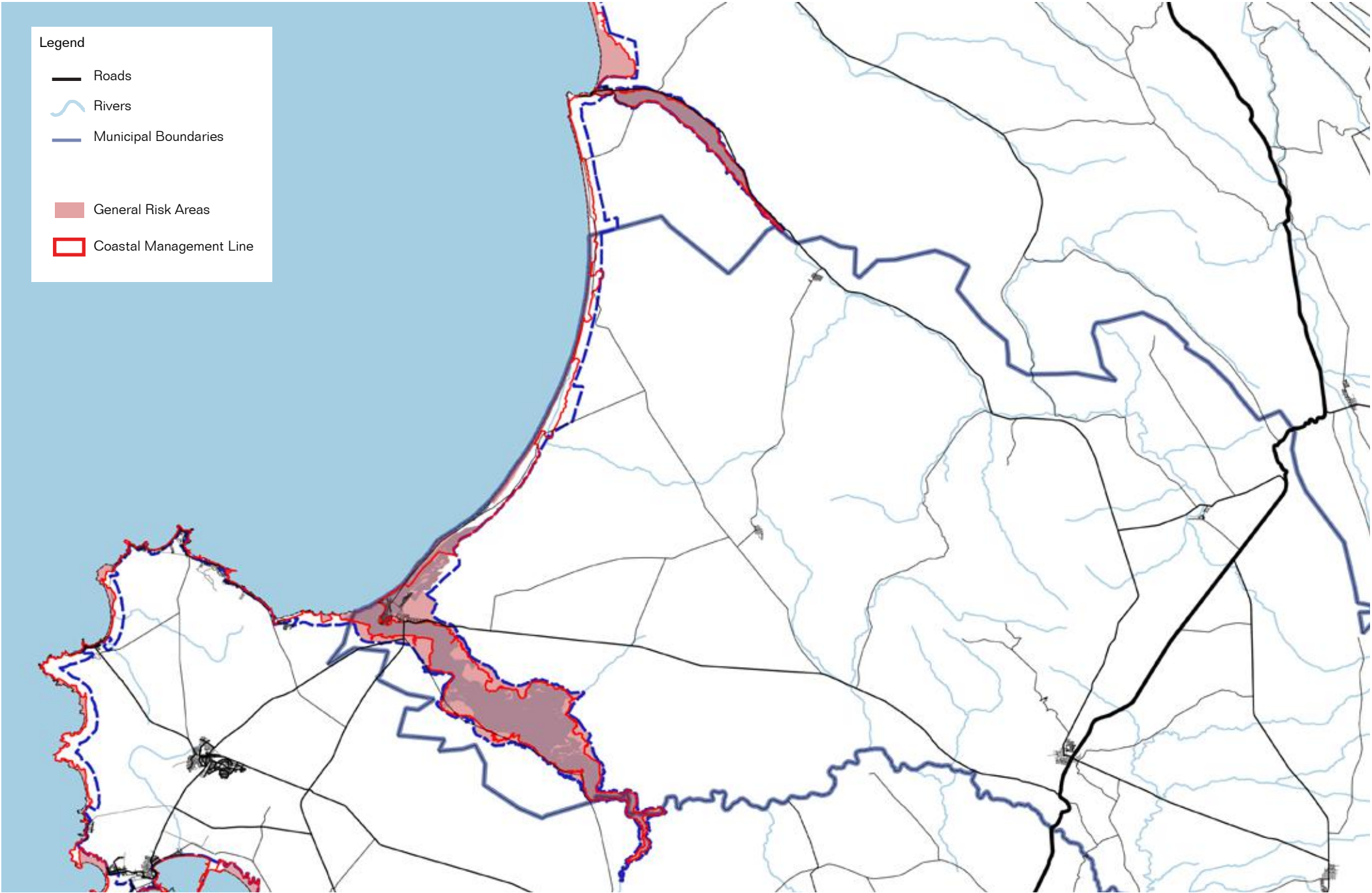


Figure 25. Map showing key coastal management lines as well as areas of general risk and coastal protection



Figure 26. DEA&DP High, medium and low risk areas in Dwarskersbos



Figure 27. DEA&DP High, medium and low risk areas in Laaiplek and Velddrif as well as river flooding lines

3.1.1.3 The Berg Estuary

The Berg Estuary is one of the most valuable biodiversity assets in the Municipality, specifically recognised as an Important Bird Area, with a multitude of birds, fish and invertebrates, and unique estuarine vegetation. A range of ecosystem services support the local economy including fishing and salt production. The estuary is ranked as the third highest conservation importance in South Africa, yet current protection is limited to the broad parameters of national legislation and SDF guidelines. The management of the Berg Estuary is highly complex with many aspects to be managed across various organs of state. It is imperative that appropriate spatial protection is provided within the SDF, and Municipal responsibility clearly defined. Inappropriate locations for future development within sensitive estuarine environments and all areas at risk of high energy coastal and river flooding must be clearly indicated and delineated with the SDF update, and any exceptions very clearly flagged, motivated and subject to proper public evaluation.

Key frameworks to be reflected in the Municipal SDF update and spatial outputs are:

- Berg River Estuary Management Plan by Cape Nature ver 2012
- Recognition of the lower Berg and estuarine mouth as an Important Bird Area: <https://www.birdlife.org.za/get-involved/join-birdlife-south-africa/item/246-sa104-berg-river-estuary>

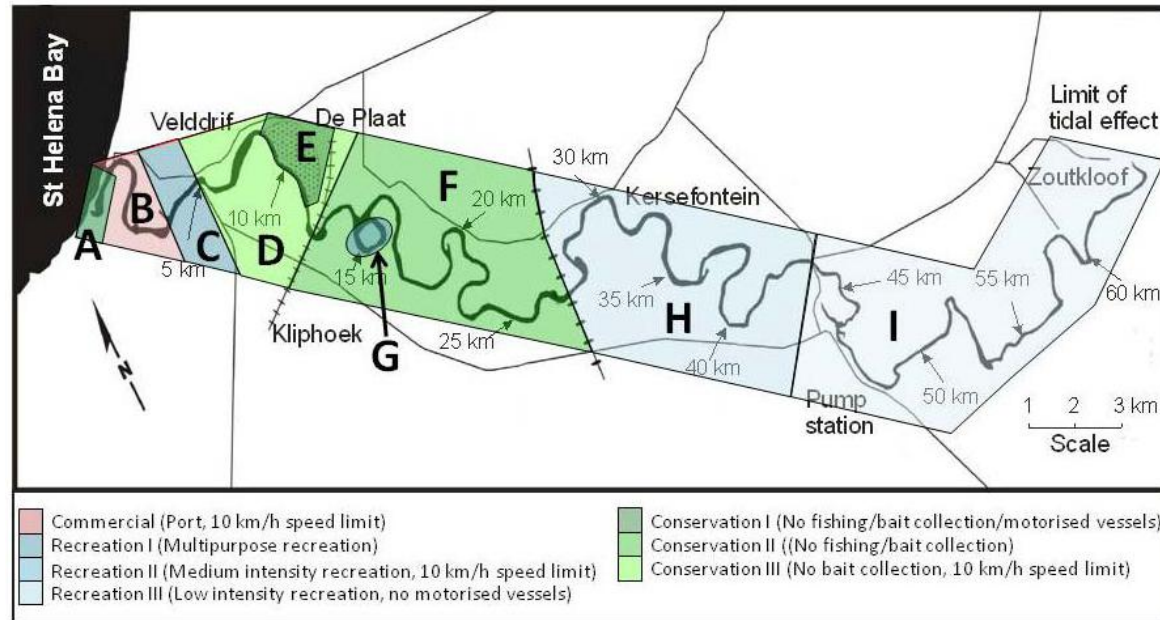
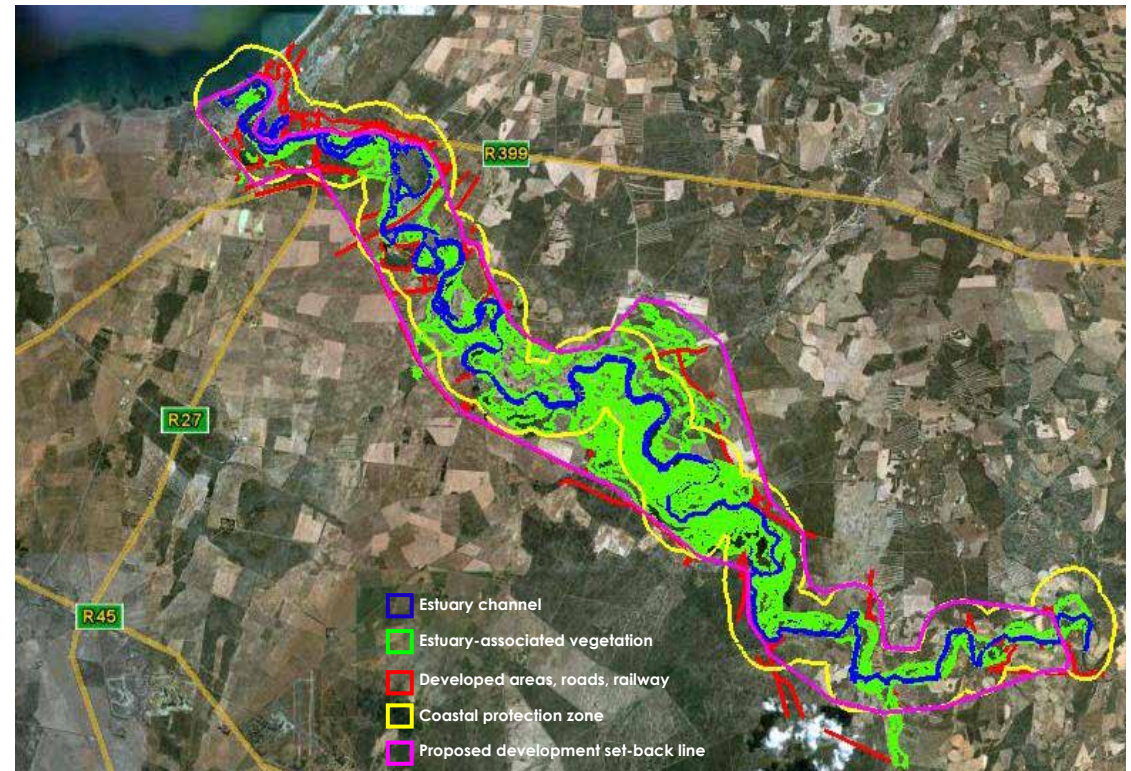


Figure 28. Draft zonation plan for the Berg estuary. Note that the lateral extent of all zones is up to the high tide mark only and the sizes of boxes shown here are exacerbated for clarity (Cape Nature 2012)

Figure 29. Key estuary features, coastal protection zone and proposed development setback management line for the Berg Estuary (Cape Nature 2012)



3.1.1.4 Agriculture

The agricultural sector is an important sector in the economic makeup of the Bergrivier Municipality, forming part of the primary sector but also providing inputs towards processing and manufacturing activities in the secondary sector and representing an important element of the value chain in the tertiary sector, too.

Predominant soil types in Bergrivier are denoted on Figure 30, distinguishing between the following:

- 1. Well-structured soil in the Porterville-Piketberg valley, on the pediment slopes of the Porterville and Piketberg mountains and within certain of the coastal areas.
- 2. Well-drained, but poorly structured soils making up the remainder of the Porterville-Piketberg valley.
- 3. Unstructured sand and shallow soils in the coastal area, southern portion of the Porterville-Piketberg valley and the Kliphoek-Driefontein-Redelinghuys area.

Because agricultural potential is directly related to the prevailing agro-climatic conditions (i.e. soil type, elevation, rainfall, etc.), such potential in a predominantly water-scarce area (as Bergrivier is) is often directly linked to available irrigation water. Dry-land agricultural potential (e.g. grain), rated from highest to lowest potential within the municipal area, is described as follows:

- 1. Higher potential south of Porterville and Piketberg and in the Kliphoek-Driefontein-Redelinghuys area.
- 2. Lower in the Piketberg-Porterville valley north of Piketberg due to climatic risk (lower and unreliable rainfall), as well as in the Aurora area and upper Verlorelevlei area.
- 3. Poor in the coastal strip.

These place-bound opportunities and constraints are reflected in the distribution of West Coast Fields (i.e. all land cultivated as at 2008) as the main agricultural production type (as depicted on Figure 31 and 32).

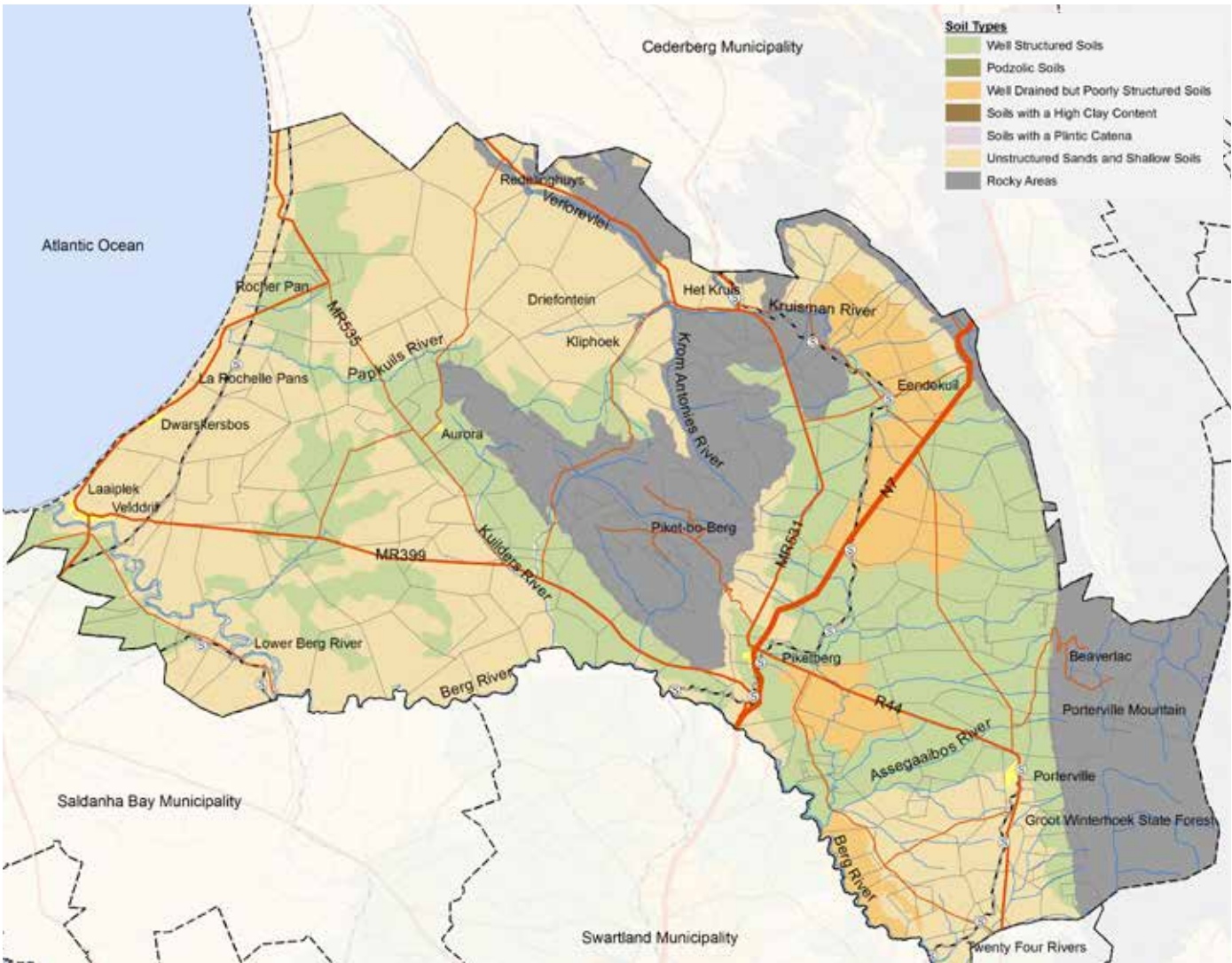


Figure 30. Soil Types in Bergrivier Municipality

Table 5. Total area per land cover in Bergrivier

	Dryland	Irrigated	Usable Veld	Improved Grassland	Total Area
Hectares	200 444	34 063	157 021	-	391 501
%	51,2	8,7	40,1	-	100

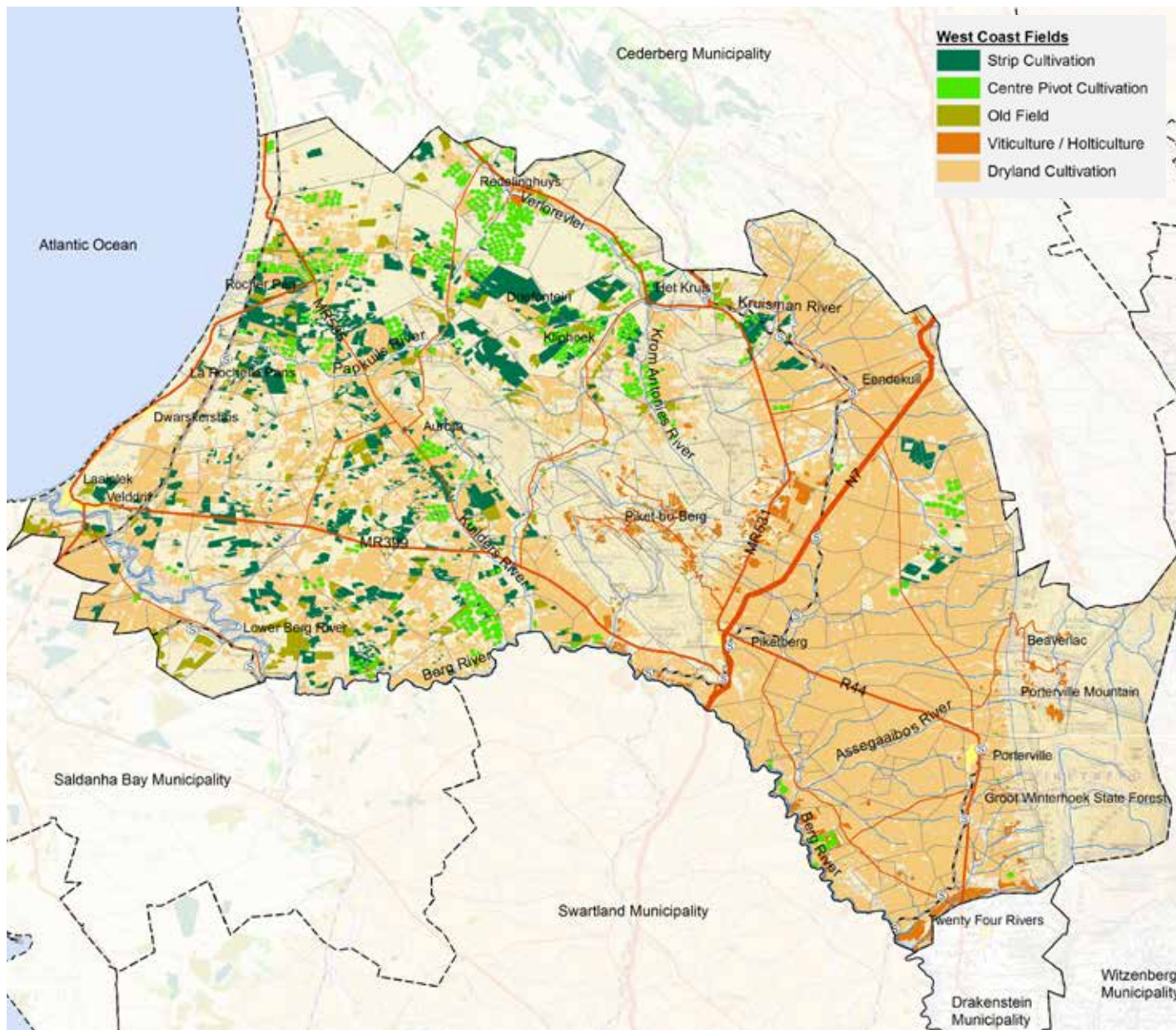


Figure 31. Bergrivier Agricultural Lands

The following agricultural opportunities and constraints are identified within the existing Agricultural Practices and Commodities, categorised as follows:

1. Extensive large-scale grain production (eastern portion of the municipal area)
2. Small-scale intensive irrigation on Porterville Mountain and Piket-bo-Berg, as well as along the Berg River and Twenty-Four Rivers
3. Mixed farming and large-scale irrigation (centre pivot) in the Redelinghuys, Aurora and coastal belt areas

Large-Scale Extensive Farming Enterprises

In comparison to the Swartland, the dominant grain production area between Piketberg and Porterville (i.e. Piketberg-Porterville valley) is not a prime grain production area, given a higher risk due to climatic variation. Farming practices often include a combination of either or both small stock or large stock production. Higher stocking rates apply given supplementary feeding.

Farm size is of necessity large, with existing practices including a ± 1000 ha unit to counteract the climatic risk.

Furthermore, the product (i.e. grain) is subject to the typical commodity problem that product price is determined by market forces and is not responsive to input costs, often resulting in pressure on profit margins. Furthermore, a commodity price ceiling exists given international competition.

Small-Scale Intensive Irrigation Enterprises

Three main areas are noted for these types of enterprises:

1. Porterville Mountain, given both its elevation and a high level of product research and marketing, has resulted in the area's emergence as an intensive and profitable fruit and floriculture (e.g. Proteas) production area. Constraints include limited available land and high unit prices.

- II. Piket-bo-Berg represents an area of significant fruit production benefiting from surface run-off and elevation, as well as adequate access. Expansion of development is being restricted by a shortage of surface water, with ground water extraction proving un-economical.
- III. Berg River farms, pending the availability of water and soil type, have the potential for intensive irrigation development as witnessed by recent viticulture and vegetable projects.

Farming practice in both mountain areas and along the Berg River requires a high level of technical skills and mirrors the requirements of other intensive irrigation areas (e.g. Olifants River) in the West Coast District.

Large-Scale Irrigation Enterprises

Similar to the Sandveld, the Aurora coastal belt is employed for mixed farming, with a combination of small stock, strip grain cultivation and centre pivot potato production. Natural veld sensitivity, groundwater sustainability and the high risk of both dry-land cultivation and potato production highlight the requirements as detailed for both extensive dry-land and livestock farming, and large-scale irrigated potato production in the Sandveld (i.e. Cederberg municipal area).

Centre pivot farming is also practised in the Kliphoek-Driefontein-Redelinghuys area, as well as along the Berg River and north of Porterville.

Future Trends and Dynamics in Agriculture

SmartAgri

Given the importance of the agricultural sector to the Bergrivier local economy, it is vital that farming enterprises and practices need to transform in response to climate change and resource/landscape/habitat vulnerability. In this regard, the Western Cape Government's SmartAgri plan is seen to be important for the future adaptability and resilience of the sector in Bergrivier. The SmartAgri plan is based on the division

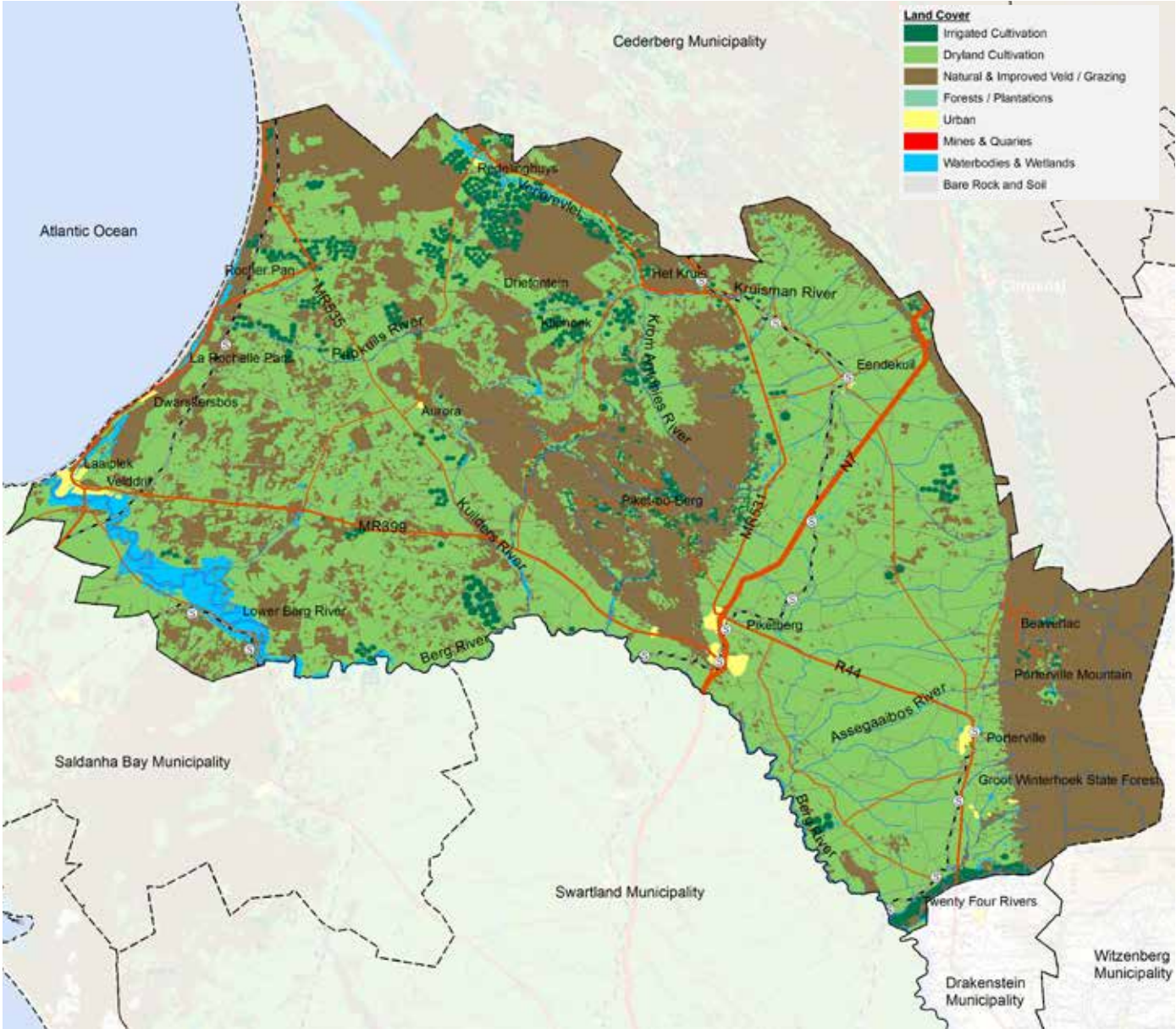


Figure 32. Land Cover in Bergrivier

of the Western Cape province into a number of derived Agro-Climatic Zones (see Figure 33) and these have been assessed for their key features, and the likely impact of climate change (temperature change). This applies in the Bergrivier area as set out in Table 6.

The Priority SmartAgri Projects are identified as follows:

1. Conservation Agriculture for all commodities and farming systems
2. Restored ecological infrastructure for increased landscape productivity, socio-ecological resilience and soil carbon sequestration
3. Collaborative integrated catchment management for improved water security (quality and quantity) and job creation
4. Energy efficiency and renewable energy case studies to inspire the transition to low- carbon agriculture:
5. Climate-proofing the growth of agri-processing in the Western Cape
6. An integrated knowledge system for climate smart agricultural extension

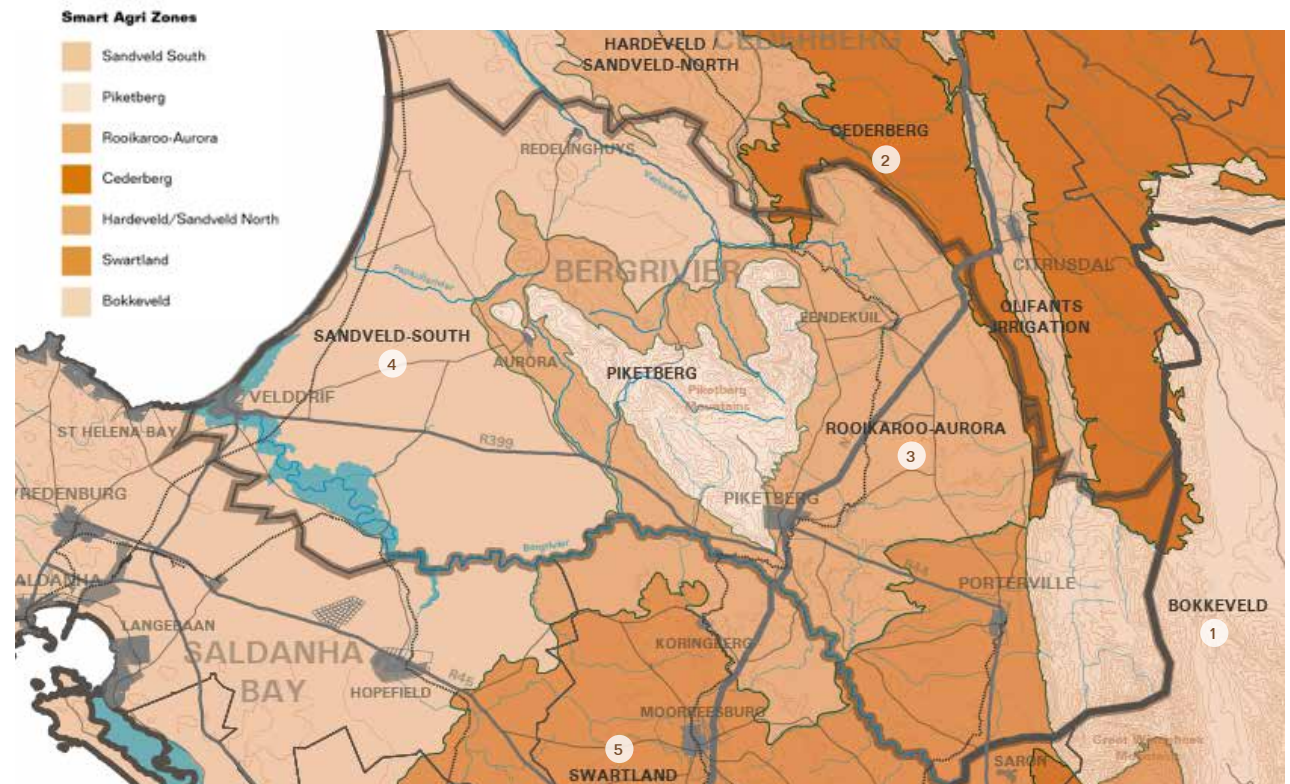


Figure 33. Map of Agro-Climatic Zones

Table 6. Assessment of Agro-Climatic Zones relevant to Bergrivier

Agro-Climatic Zone Name	Main water resource features	Main climatic features	Climate change temperature predictions	Main commodities	Future agricultural potential
1. Bokkeveld	Farm dams, good water resources and large storage capacity	Winter rainfall, cold minimum winter temperatures, occasional snow	Medium range warming	Pome fruit, wheat, stone fruit, onions, potatoes Cattle	Remains high as long as the dams fill up
2. Cederberg	Rivers, very low storage capacity	Winter rainfall, very cold in winter with occasional heavy rain and snow, hot to very hot in summer	Medium range warming	Pears, fynbos flowers, stone fruit, wheat, citrus, herbs/essential oils, wine, grapes, Cape rush Sheep, cattle	Remains viable as long as farm dams fill up, but changing due to warming
3. Rooikaroo-Aurora	Berg River in the south, low storage capacity	Hotter and drier than Swartland to the south, more variable rainfall	Medium range warming	Wheat, canola, rooibos Sheep, cattle	Increasingly marginal for wheat
4. Sandveld-south	Extensive use of groundwater, Berg River, very low storage capacity	Rainfall in winter. Warm to hot in summer, windy in summer	Medium range warming	Wheat, potatoes, rooibos Sheep, cattle	Increasingly marginal
5. Swartland	WCWSS large dams, Berg River, farm dams, large storage capacity	More reliable dryland conditions than further north. Winter rains, with cool conditions, hot to very hot in summer	Low to medium range warming	Wheat, wine and table grapes, canola, olives Dairy, pigs, sheep, cattle	Remains high for small grains but with increasing yield variability

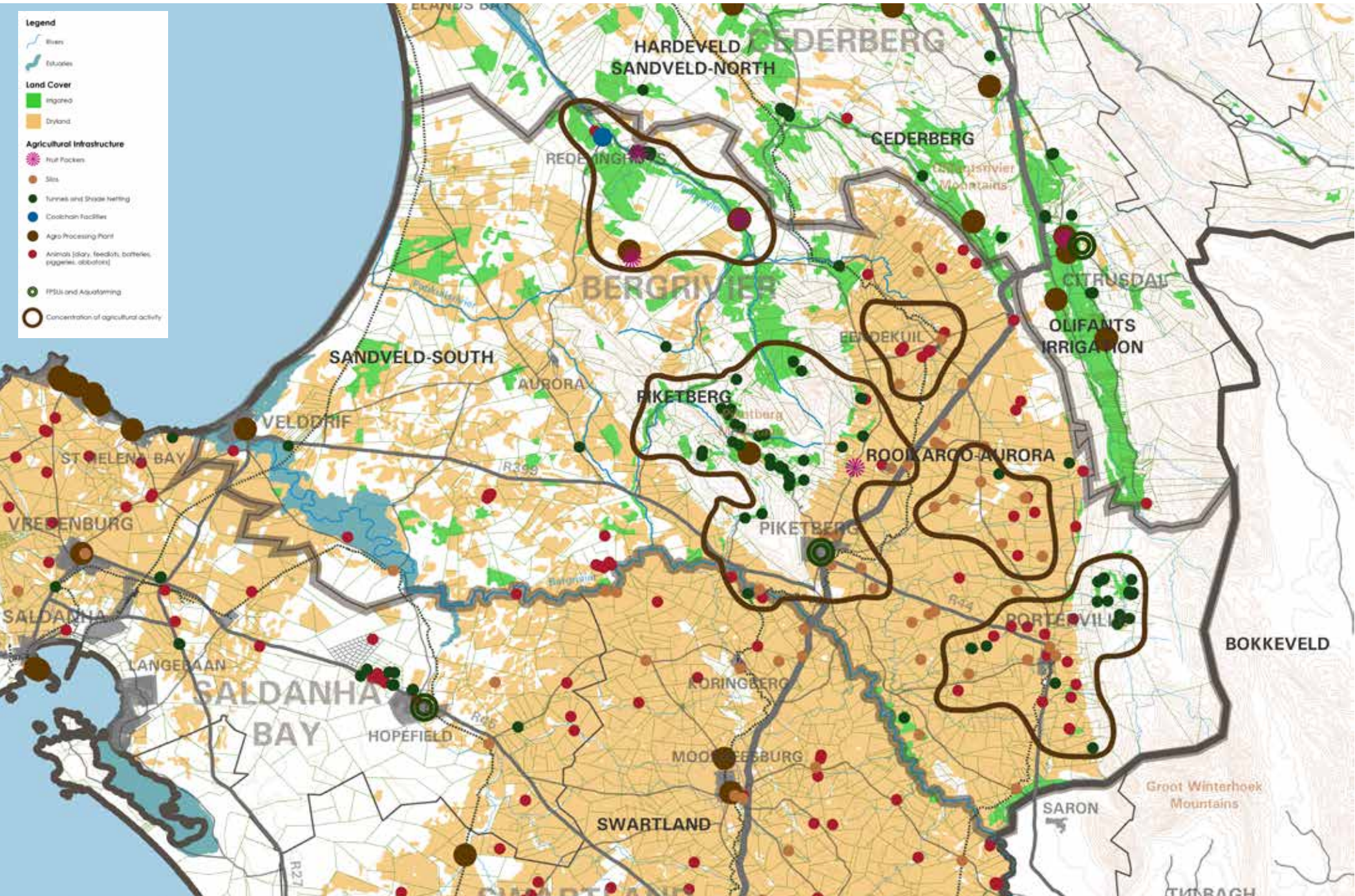


Figure 34. Agricultural infrastructure and activities in and around Bergrivier

3.1.1.5 Cultural Landscapes

A substantial portion of the Bergrivier area comprises relatively flat, open and dry yet cultivated landscape bounded to the west by an undeveloped and unspoilt coastline stretch between two river estuaries with Rocherpan, a place of seasonal vleis offering an important bird watching destination.

The Bergrivier dictates the southern boundary. It links neighbouring municipal areas providing scenic and recreational opportunities before exiting to the ocean via a serpentine wide estuary of tidal flats and wetlands with high scenic, estuarine and recreational value. The main north-south linking route echoes the directional early pioneering trails which avoided the then impenetrable mountains to the east. The Piketberg's prominence, geographically and historically, acted as anchor for the earliest settlements which were born from conflict around livestock grazing lands. The Piketberg region reflects cultural, historic, aesthetic and scientific significance with the location of an early astronomical beacon near to the settlement of Aurora on the west side of the berg.

The Verlorenvlei River estuary, lagoon and wetland with associated archaeological sites (Baboon Point, Mussel Point, Diepkloof Rock Shelter), is also shared with the neighbouring Cederberg Municipality. This region presents extremely high pre and post-colonial archaeological and built form heritage significances and is steeped in distinctive cultural, historic and aesthetic qualities.

The Winterhoek Mountains with high scenic value and protected wilderness landscapes (Groot Winterhoek Wilderness Area) are shared with the neighbouring Witzenberg Municipality and accessed from the low land via passes of both historic and technological value (Dasklip Pass, Piekenierskloof Pass).

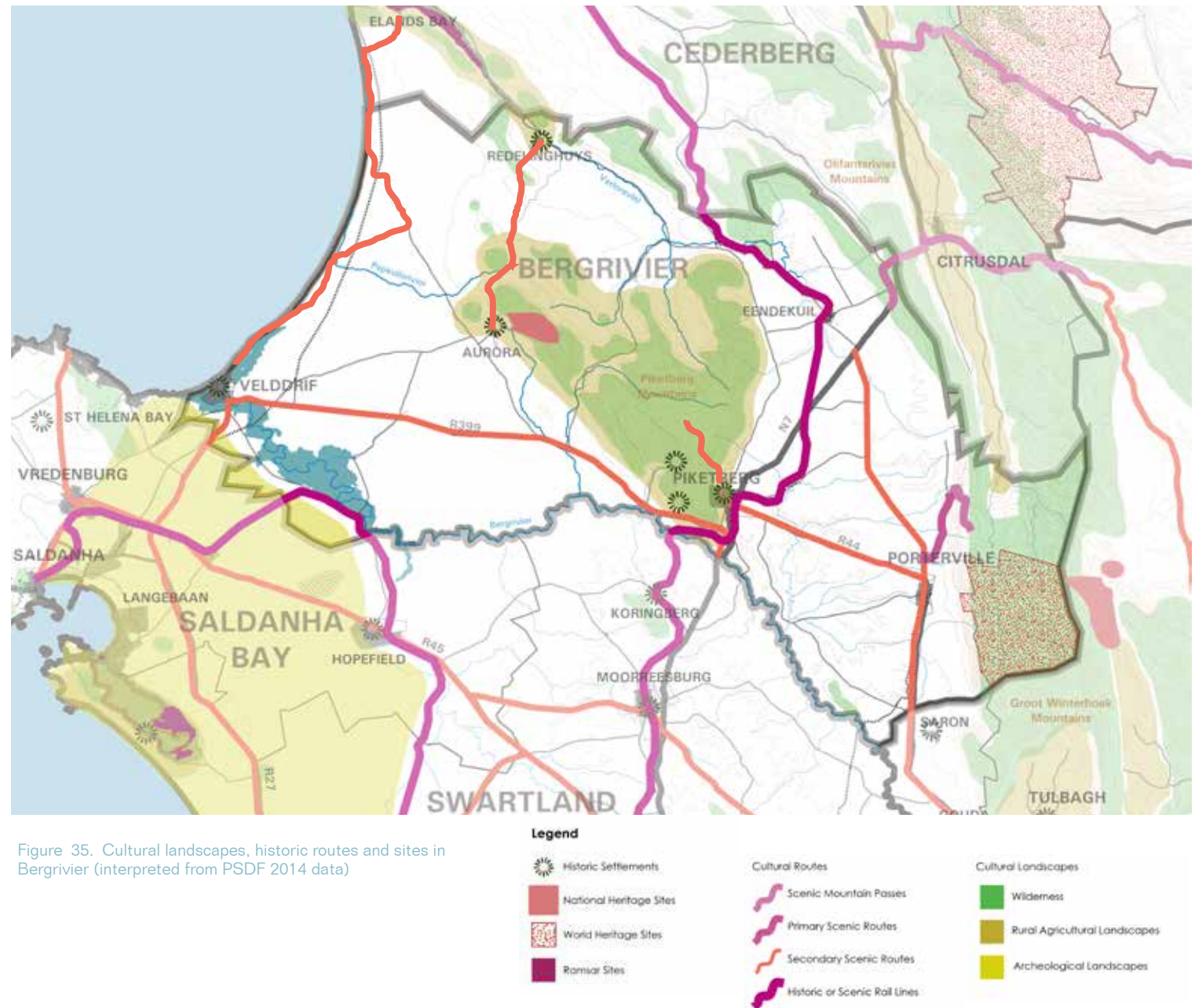


Figure 35. Cultural landscapes, historic routes and sites in Bergrivier (interpreted from PSDF 2014 data)

3.1.2. Key Challenges

3.1.2.1 Legacy Challenges

- Extreme loss of biodiversity and landscape function from historical agricultural development of alluvial and shale soil Renosterveld habitats.
- Poorly considered and insensitive infrastructure and general development of natural landscapes without contemplation for or without comprehensive assessment of visual impacts on scenic landscape integrity.
- Road, infrastructure and built environment development without adequate identification of cultural heritage resources that could be impacted either directly or indirectly (Bergrivier estuary - Port Owen).
- Imprudent privatised settlement development which is potentially damaging to landscape significance, setting and logic, which may be visually insensitive in natural environments and which may lead to a loss of rural authenticity. Such settlements are both historically polarising and socially exclusive with labour relocated to 'off-site' housing settlements (Port Owen, Piket-bo-Berg, De Hoek - which is exclusively for PPC workers and their families, etc).
- Adhoc development of coastal strip resulting in unnecessary settlement sprawl, compromising the scenic and tourism value around tourism centres.
- Coastal road and infrastructure location, and inland agricultural development leave few opportunities for natural or wilderness coastal experience despite the rural nature of the landscape.

3.1.2.2 Current challenges

- On-going impacts of illegal land transformation and expanding agricultural and urban footprints on biodiversity, ecosystems and ecosystem services.
- Rapid recent loss of habitat and resulting increase in threat status, particularly in Sandveld, with two terrestrial ecosystems moving from Vulnerable to Endangered since 2011, and one moving from Endangered to Critically Endangered.
- On-going threat to water resources given high levels of agricultural development into riparian buffers, and settlement within riparian areas.
- Increasing rainfall variability and 2015-2018 drought associated with climate change.
- Likely unsustainable use of Sandveld groundwater resources for agricultural irrigation, particularly potato pivot farming. Lack of reliable information regarding recharge mechanisms and rates, and thresholds for sustainable groundwater use.
- Lack of co-ordination between departments in ensuring the protection of the environment. Lack of compliance and enforcement of agricultural, water and environmental legislation.
- Limited capacity for environmental education and awareness.
- To mitigate the forfeiture or loss of remoteness and rural authenticity caused by impending and ongoing upgrades to infrastructure (roads, water treatment/supply, energy supply and so forth).
- To avoid the potential loss of authentic landscape and authentic settlement patterns of development by not recognising settlement hierarchy, typology and pattern in the siting of new areas of suburban and affordable housing.
- To maintain an ongoing appreciation by means of education and respect for scenic landscapes with community participation and utilisation of local skills. This promotes the recognition that scenic resources are economically valuable in terms of tourism if managed in a responsible way.

- Ongoing coastal development despite under-utilised existing resort development.

3.1.2.3 Future challenges

- To comply substantially with the systematic framework of Critical Biodiversity Areas and Ecological Support Areas of the 2017 Western Cape Biodiversity Spatial Plan so as to affect its ability to provide the most benefit to people and biodiversity at a landscape level and avoid land-hungry alternative development options and offsets. This is particularly challenging, but also important in a municipality with such high levels of lowland habitat transformation that ability of the landscape to maintain ecosystem services and be resilient in the face of climate extremes is already severely compromised.
- Ongoing and increasing demand for intensively produced agricultural products from growing South African population.
- Better protection of key ecological infrastructure and ecosystem service delivery areas, especially catchment management, riparian systems, and the floodplain of the Berg River system. Extensive restoration of Ecological Support Areas identified in the 2017 WC Biodiversity Spatial Plan to improve water quality, delivery and provide flood absorption for expected more extreme future climates.
- Potential development pressure on the highly sensitive and flood prone southern banks and floodplain of the Bergrivier Estuarine system
- Stricter management of natural resource utilisation and consumption in order that sustainability thresholds, such as the need for ecological reserve of surface and groundwater resources, are not threatened or ecosystem functioning jeopardised through the modification of wetlands or flow regimes.
- Mitigating the loss of sense of remoteness and timelessness by careful management and considered impact assessment of new development.
- Maintaining a dominance of rural landscapes, wilderness and authentic settlement whilst enabling

infrastructure and other development by introducing no-go regions.

- By considered interventions where large scale infrastructure is to be located within or adjacent to landscapes of high heritage and scenic significance (e.g. wind-farms, power stations, transmission lines, solar energy plants)
- Enabling a development principle of authenticity which may benefit the greater good by means of community participation and the employment of local skills
- Safeguarding local landscape and scenic value through appropriate land use location, scale and form. Visual environment and unique West Coast sense of place mainstreamed in spatial planning decision-making.
- Addressing climate change pressures to diversify and adapt to changing market conditions, extreme climatic conditions and increasing food security concerns, given the resource – dependent nature of the local economy.
- Wherever possible, river buffers should be restored to protect river biodiversity and ecosystem services on site and downstream. This is particularly important in an intensive small scale system, where fertiliser run-off and sedimentation from agricultural practise is most prevalent, and where such farms are particularly vulnerable to flood events.

3.1.3. Opportunities

- Capitalising on the scenic landscapes
- Reducing climate vulnerability, improving landscape resilience by growing a green economy and by taking advantage of the economic opportunities arising out of climate change, particularly around water supply. Support opportunities for payment for water supply and habitat restoration.
- Conservation and rehabilitation programmes and training / skills development projects targeting

management of conservation worthy land and ecosystems within private land ownership.

- Promote traditional off-season winter tourism and longer stays. Promote the unique west coast environmental features and sense of place, including emerging value as a destination. Identify champion businesses promoting these values, e.g. Wolfgat Restaurant in Paternoster.
- Eco-tourism - capitalising on the significant biodiversity and scenic landscapes of the area supported by training, environmental education and business development.

- Expanding the “conservation estate” outside the formal Protected Areas, including CapeNature’s Stewardship programme, targeting key representative habitats and landscape connectivity.
- Improve catchment and riparian management. Explore resources for clearing water hungry invasive plants from catchments and riparian areas in light of the regional strategic value of the water resources.
- Forging partnerships with the commercial agri-sector (e.g. potatoes) to provide for industry self-regulation and protection of environmental resources.

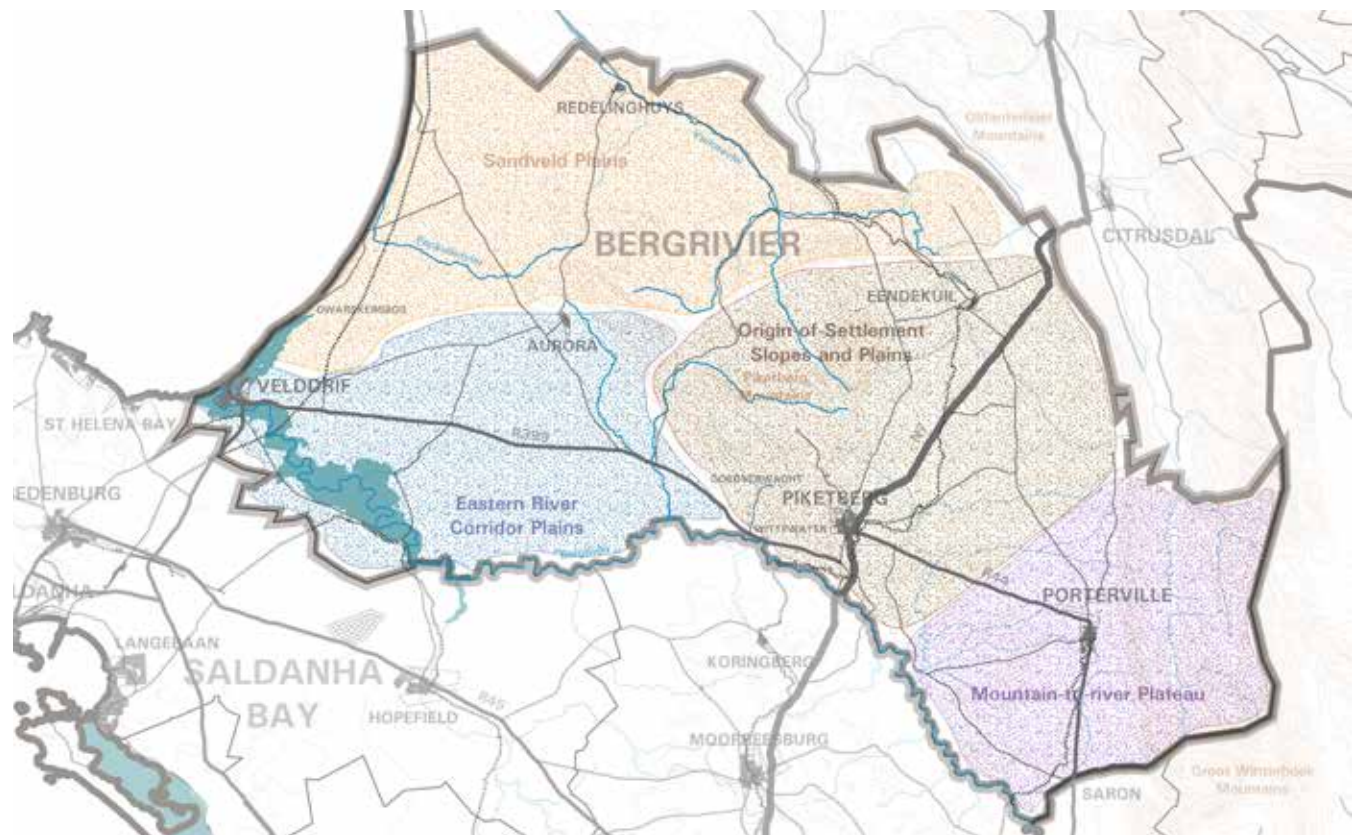


Figure 36. The 4 identified scenic cultural landscapes of Bergervier (Ursula Rigby Heritage Study 2018)

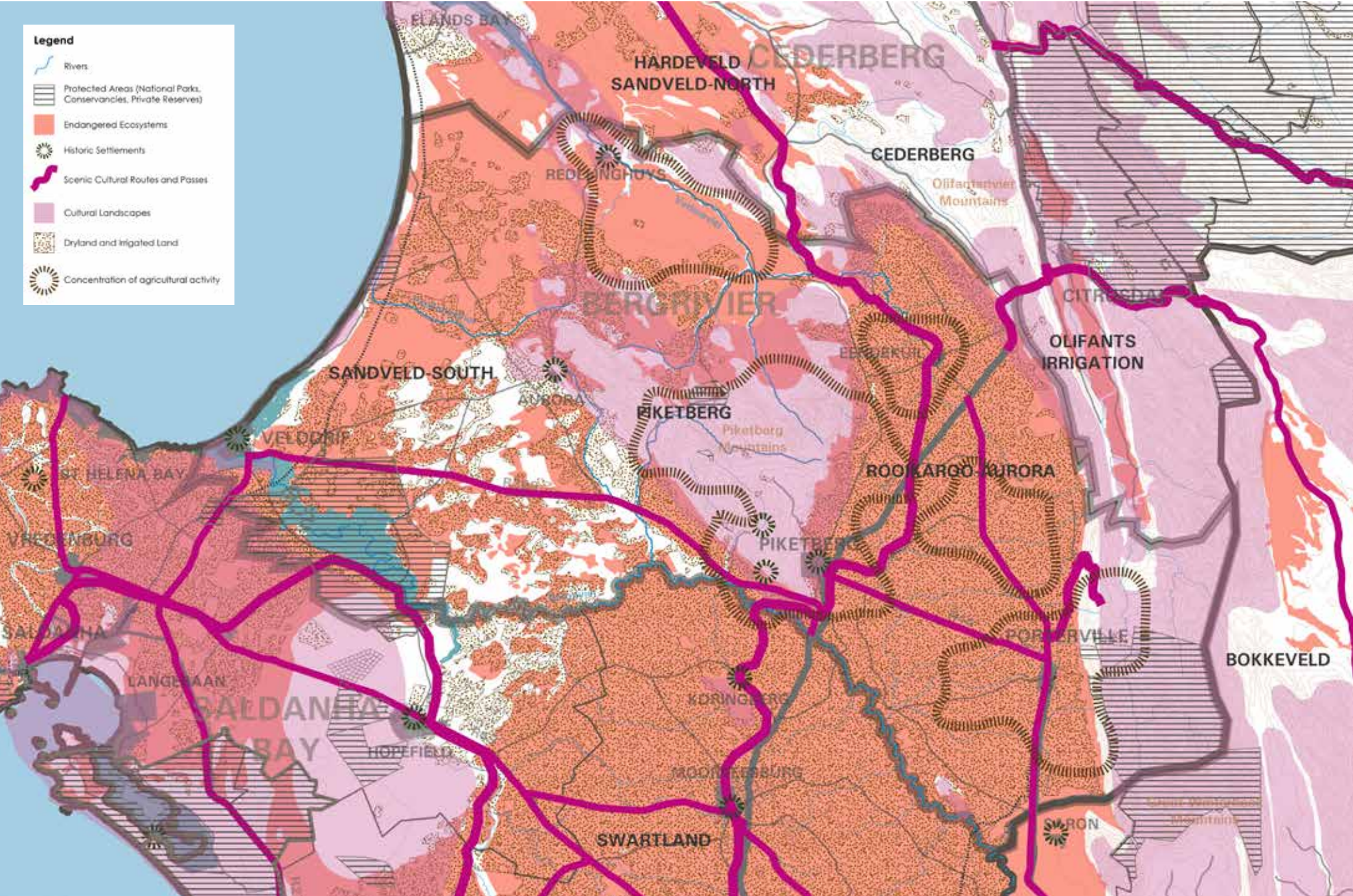


Figure 37. Synthesis of biophysical elements, challenges and opportunities in Bergrivier

3.2. Socio-Economic Analysis

3.2.1. Overview

Bergrivier Municipality is the 4th largest municipality out of the 6 municipalities that make up the West Coast District. The population figure for Bergrivier in 2001 was 46 327 and increased substantially to 61 897 in 2011, indicative of extensive migration into the area during this period and leading to a high population growth rate of 2.9% per annum. Population growth slowed to 1.2% per annum in the period 2011-2016. The national survey in 2011 and community survey in 2016 help to identify this information.

Determining a municipality's *current* or future demographic profile can be challenging due to the outdated nature and lack of updated statistical data currently available in South Africa. A recent study commissioned by DEA&DP (DEA&DP, 2018) made use of the Mid-Year Population Estimates (MYPE) Provincial & District level data for estimating population numbers for the years since the national census and community surveys. Although it is acknowledged that this study is still a work in progress, and that each local Municipality is required to have their own population data analyses to enable better IDP estimates, Provincial Government has confirmed that the findings of this work will update and replace the Provincial Population Growth Projections for the WC (PwC, 2014) that has been used as the accepted population standards up to now. This SDF therefore aligns with the 2018 DEA&DP Study - which is also currently being incorporated into the Bergrivier IDP.

In comparison to the range of sources available, the PwC predicted growth rate of 1,11% indicated the slowest growth prediction, but potentially the most realistic in terms of how current growth trends have changed since the high levels of influx between 2001 and 2011. The 2018 MYPE data estimates Bergrivier's population to have grown to 69 124 at a rate of 2,4% from 2016, and that this rate will continue until 2023. From 2023 - 2028 the research predicts Bergrivier's growth rate to slow down to 2,2%.

Based on the available data Bergrivier has a relatively large non-urban population of almost 40%, growing by similar rates as the urban areas of the rest of the municipality.

The population is predominantly youthful with 58 % of the population falling within the national definition of youth (under 35). There is a significant increase of 24.2 % in this

age group. However, Bergrivier also has the highest old age dependency of all the municipalities in West Coast District. The reason could be that the towns in Bergrivier are seen as safe and tranquil places to retire in - also reflected in the demand for retirement facilities.

The predominant language in the Municipal Area remains Afrikaans which is spoken by 91 % of the population. This is also the predominant language in all wards, followed by isiXhosa and English. In Wards 1, 4, 5 and 7, isiXhosa is the second most predominant language while in Wards 2, 3 and 6 English is the second most predominant language.

The intensity of poverty, i.e. the proportion of poor people that are below the poverty line within the Bergrivier area decreased slightly from 43,7 % in 2011 to 41,5 % in 2016.

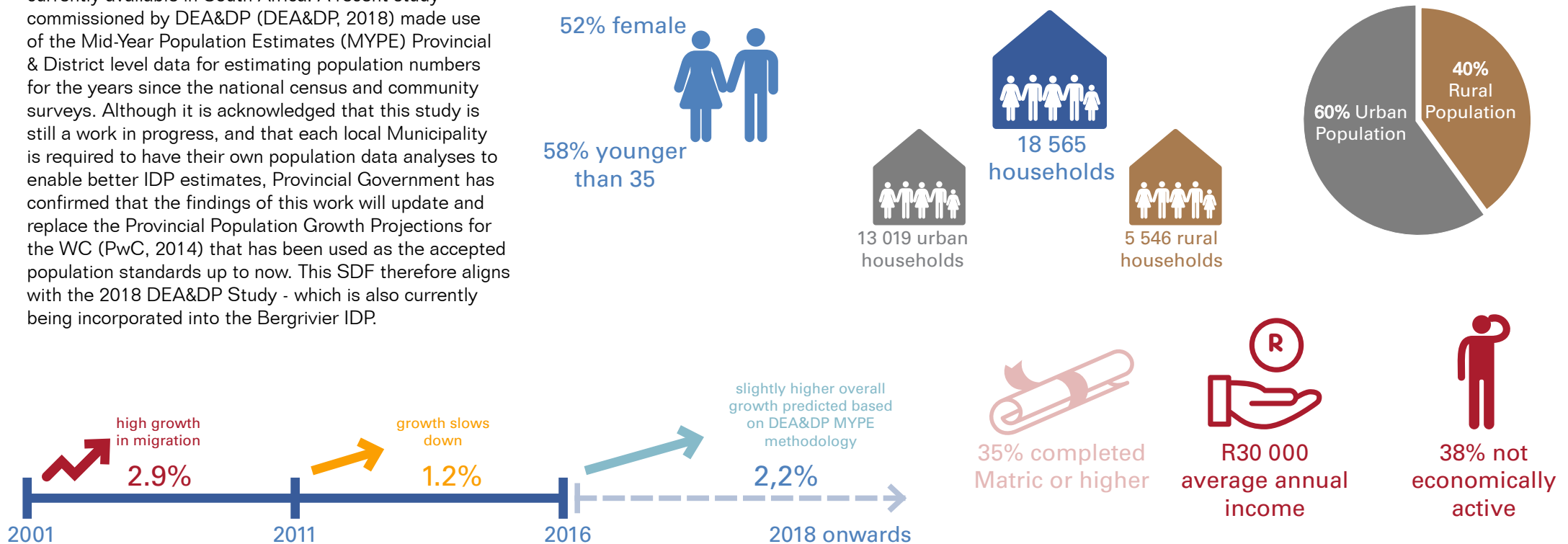


Table 7. This table provides a breakdown of the population data for each settlement in Bergrivier. The growth rates from 2001 - 2011 show high growth in rural settlement of Eendekuil and in Dwarskersbos - likely because of increase in holiday owners and farm workers moving to urban centres. Predictions for year 2028 based on the 2018 DEA&DP draft estimate of 2,2% are also calculated for each town, although individual growth percentages for each town will need to be calculated in a more nuanced way to get correct estimates and to accurately inform future development.

Town	Growth Potential Study 2014		Population			
	Hierarchy and Classification	Rating	2011 (StatsSA)	Annual growth from 2011 - 2016	2018 Estimate (MYPE)	2028 predictions (@2,2% average growth estimate from 2016 - 2028 - WCG DEA&DP)
Piketberg	Sub-regional node - Agricultural Service Centre	Medium	12 075	1,1%	13 378	16 758
Velddrif / Laaiplek	Fishing village	Medium	11 017	1,6%	12 498	15 656
Porterville	Sub-regional node - Agricultural Service Centre	High	7057	0,8%	7703	9650
Eendekuil	Rural Village	Medium	1530	2,1%	1781	2231
Dwarskersbos	Coastal Holiday town	Medium	670	2,3%	787	986
Redelinghuys	Rural Village	Low	574	-0,1%	600	751
Aurora	Rural Village	Low	578	1,9%	667	835
Goedverwacht	Rural Settlement - Residential	Low	1979	1,4%	2222	2783
Wittewater	Rural Settlement - Residential	Low	848	1,2%	943	1181

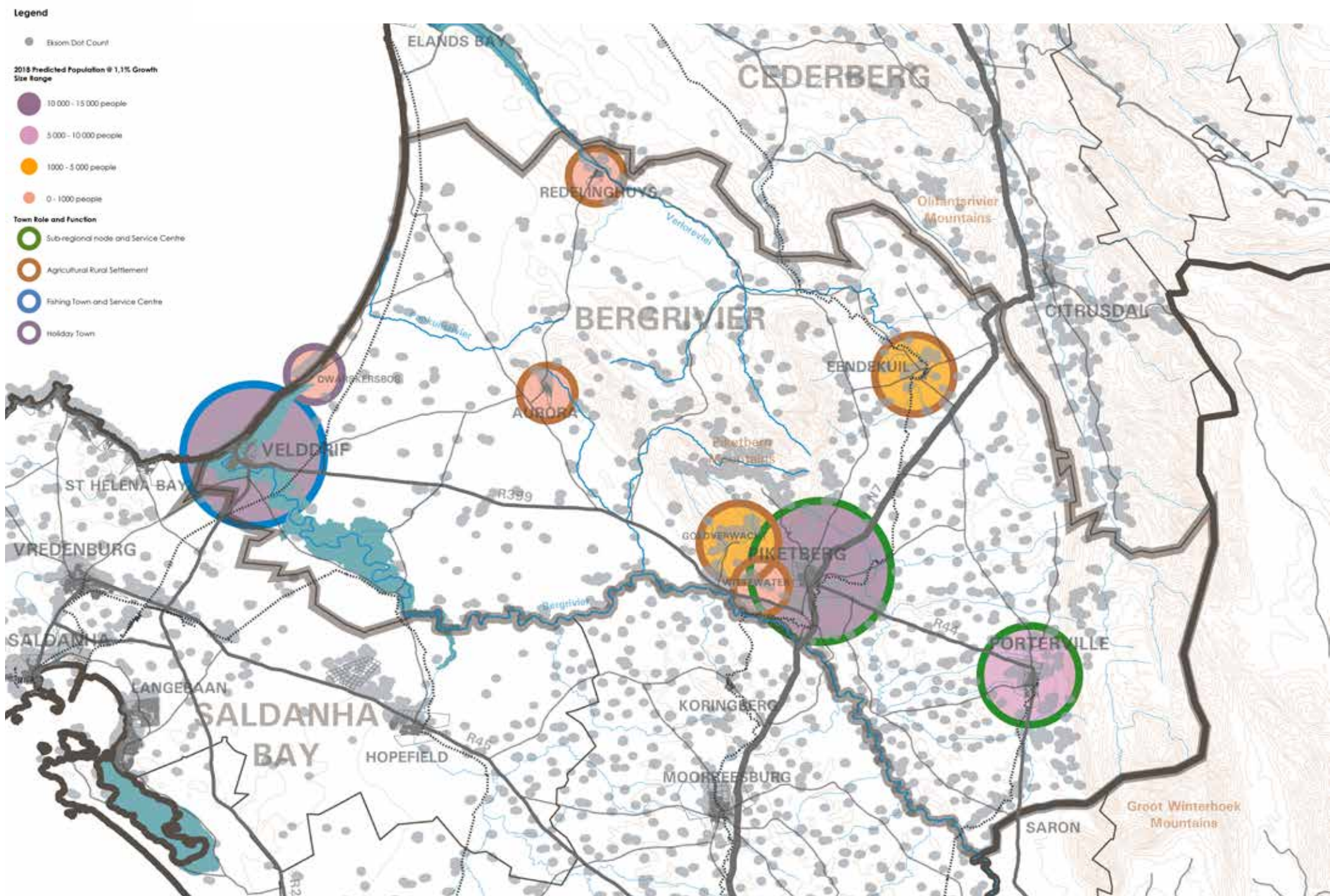


Figure 38. Comparing town populations and functions of the settlements in Bergrivier

3.2.1.1 Space Economy, Rural Development and Tourism

Strategic Goal 3 of the Municipal IDP is to create an enabling environment for economic growth. The scope to use Berg Rivier's place-based assets to unlock economic opportunities is a theme that the Municipal SDF explores. This space-economy theme covers rural and urban economic activity patterns, and infrastructure connecting work places and spaces. It deals with Berg Rivier's economic geography including its linkages to local and external (other regional, national and global) markets.

To inform the Municipal SDF's proposals the Status Quo report examines the spatial implications of various economic development initiatives and the scope to unlock regional economic opportunities. Available documents on regional and local (i.e. municipal LED Strategy) economic development initiatives were reviewed, and stakeholders interviewed.

3.2.1.1.1 Regional Economic Context

Functional economic regions are characterized by frequent interaction between places of work and residence, and typically extend across municipal boundaries. Based on 2014 modeling of the Western Cape's functional economic regions undertaken by Stellenbosch University's Geography Department and the CSIR, the Bergrivier municipal area falls within the southern West Coast functional region (see Figure 39).

The Berg River forms the interface between the Greater Saldanha and southern West Coast functional regions. The southern West Coast functional region extends into the Drakenstein municipal area given its economic linkages through to the N1. It also has linkages with the northern West Coast, as well as with Greater Saldanha and Greater Cape Town metro regions to the south. There is growing awareness of the spatial logic of functional economic regions. Building on the territorial advantage of local municipalities, there is a case for a shared strategic approach to unlock the regional economic development potential. The outcome strived for is a competitive regional economy that re-energises and shares growth.



Figure 39. Map of district boundaries and functional economic regions as determined by US/CSIR Growth Potential of Towns Study in 2014 - interpreted to highlight Bergrivier's location and relationship with Cederberg



3.2.1.1.2 National Economic Development Initiatives

In the context of the national space-economy, since the 1960s Saldanha and environs have been identified as having industrial development prospects. The National Development Plan (NDP 2012) identified Saldanha as a 'growth management zone' where special interventions are justified on account of its resource-related port and industrial development prospects. The Department of Trade and Industry (DTI) subsequently designated the Saldanha Bay Industrial Development Zone (SBIDZ). The SBIDZ is a specific type of Special Economic Zone (SEZ) that is targeted at servicing the oil and gas industry.

Towards implementation of the NDP, the National Infrastructure Plan (NIP, 2012) incorporates Strategic Infrastructure Project 5 (SIP 5) for the development of the Saldanha Bay— Northern Cape corridor through rail

and port expansion, increasing back-of-port industrial capacity by the development of the SBIDZ for minerals beneficiation and servicing the maritime oil and gas industry. Straddling the N7, the Bergrivier municipal area forms the northern gateway to the SBIDZ.

Operation Phakisa, which was launched in 2014 as one of the measures taken to implement the NDP, is a national development programme under the auspices of the National Department of Environmental Affairs. It focuses on unlocking the economic potential of South Africa's oceans. The programme has four components, all of which have relevance to the West Coast's spatial agenda:

- Marine transportation and manufacturing
- Offshore oil and gas
- Fisheries and aquaculture
- Marine protection services

Veldrif stands to be a direct beneficiary of this initiative, and the balance of Berg Rivier's space-economy an indirect beneficiary.

3.2.1.1.3 Provincial Economic Development Initiatives

The Provincial Strategic Plan (PSP, 2014 - 2019) sets out the initiatives being undertaken to deliver on the Provincial Strategic Goals (PSGs). The PSDF sets the spatial framework within which the PSP is being implemented. Its strategy for the development of the Western Cape space-economy has four key components:

- I. Reinforcing the performance of the province's economic growth engine (i.e. Cape Metro region);
- II. Unlocking the potential of emerging regional industrial nodes in the West Coast (i.e. Saldanha/Vredenburg and environs) and the Southern Cape (i.e. Mossel Bay/George and environs);
- III. Strengthening the Overstrand and Garden Route coastal belts as leisure, lifestyle, holiday and retirement regions; and
- IV. Intensifying rural development along the upper Breede River and lower Olifants River corridors.

Bergrivier Municipality stands to be an indirect beneficiary of this strategy.

Project Khulisa is the central thrust of the Western Cape Government's economic development strategy. Khulisa Phase 1 runs from 2015 to 2019 and focuses on what government and the private sector can do together to improve economic growth and job creation in the tourism, agri-processing, and oil and gas industries. Berg Rivier's tourism and agricultural assets make it a direct beneficiary of this initiative and, forming the northern gateway to the Saldanha/Vredenburg conurbation, it will also accrue indirect benefits.

3.2.1.1.4 Overview of Local Economy & Development Initiatives

The private sector is the main driver of economic growth, the primary role of the public sector is to create an enabling environment for business to operate in. Local

investment decisions (i.e. bottom-up approaches) ultimately determine the pace of economic development. The Municipal Economic Review Outlook (MERO, 2017) and the latest Local Economic Development (LED) strategy of Bergrivier Municipality reflect that there is considerable variety in the local economy and associated territorial advantages.

Bergrivier Municipality's territorial economic advantage stems from its strategic location along the N7 north-south freight route, on east-west freight routes between West Coast and the N1, and R27 coastal tourism route. Its competitive advantage also stems from its marine, coastal

and agricultural natural assets. These underpin a strong agricultural sector, agri-processing industries, tourism, and freight and logistics services.

The competitive advantages and disadvantages of specific sectors namely, Agriculture (and agro processing) and Tourism (inland and coastal) was also assessed.

According to MERO (2017), Bergrivier's economy is based on agriculture, forestry and fishing sector (26%), manufacturing (22.9 %) and wholesale and retail, catering and accommodation sector (13.5%). The local economy has not fully recover from the 2008/9 recession. However, agriculture and fishing, finance, insurance, real estate and



Figure 40. Tourism activities in Bergrivier (<https://www.travelbergrivier.co.za/map>)

Table 8. Competitive Advantages of the Economic Sectors of Bergrivier (from IDP)

		Competitive Advantages	Competitive Disadvantages
General		<ul style="list-style-type: none"> • Agriculture • Tourism which also contributes to retirement • N7 feet and wheels is a major advantage that should be utilised to benefit the local economy • R27 (end of West Coast road) feet and wheels (Velddrif) is of major advantage • The local retail centre is growing fast • Bergrivier Municipality has a developmental mind set 	<ul style="list-style-type: none"> • Limited marketing of attractions • Provincial roads are in an inadequate condition • Variation in quality of school education • Limited skills and training, including business skills training Limited activities for the youth • Racism persists in many areas which implies a lack of social cohesion • Cases of gatekeeping in the private and public-sector stifles/wastes opportunities for growth • Limited affordable business property • Limited investment in town beautification is required • Limited of rental housing • Slow internet connectivity and weak cell phone reception in some areas • Difficulty of access to DTI grants are stifling business opportunities
Agricultural Sector and Agri-processing		<ul style="list-style-type: none"> • Good quality crops in table grapes, wheat, rooibos, berries, fruits and other are yielded • Well established business for export markets exists (fruit farmers and cooling facilities) • Farmers are well organised and up to date • Well-developed agro-processing ventures exist • New opportunities exists in rooibos cultivation and processing • There is space and water to expand higher value crops such as grapes and berries • Agri-tourism creates new opportunities and funding streams 	<ul style="list-style-type: none"> • High import tax on agriculture equipment and machinery (to be confirmed) • Trend of reduction in farmers due to economies of scale • Agro-processing does not create room for small & emerging players • Over spraying of pesticides may have negative environmental impact and economic consequences
Tourism	Inland	<ul style="list-style-type: none"> • Numerous natural resources and attractions creating things to do – 22 waterfalls, Beaverlac, mountain biking, hiking, 4X4.s • Beautiful landscapes and vistas which change over seasons • Roads allow for access to top of mountains • World class paragliding – multi-site venue • Safe and affordable quality of life for retirement community – access to hospitals • Potential for wedding tourism • Multiple heritage sites • Experience the country life only 1,5 hours from Cape Town with agro-processing (breweries, wineries, farmers markets) • Eco-tourism – Berg estuary, Verlorenvlei, Rocher Pan • Bo-Berg farm experience 	<ul style="list-style-type: none"> • Room for improved strategy around marketing the tourism sector • Very little cross marketing and sharing of things to do • Anchor attractions need upgrading and better facilities for the public • Signage inadequate and delayed by red tape – treasures are hidden from by-passers • Society still divided by race • Unnecessary petty rivalry in tourism and amongst businesses • Short term thinking with regard to tourism, e.g. farmers not opening farms for cycling routes • More public information • Not yet targeting the mountain biking market • Need stronger focus on preserving what we have in Bergrivier
	Coastal	<ul style="list-style-type: none"> • Authentic fishing village experience • Safe and affordable quality of life • Good for retirement, with hospital proximity • Variety of birds and opportunities for photography 	<ul style="list-style-type: none"> • Room for improved strategy around marketing the tourism sector – very little cross marketing and sharing of things to do

business services sector and the community, social and personal services sector have grown at above average rates over the last five years.

MERO reports that, in 2015, Bergrivier contributed 16.1% to West Coast employment. Over the last five years job creation increased significantly (i.e. 4 729 jobs created between 2010 and 2015) but this is less than the 6 955 jobs which were lost between 2006 and 2010. Bergrivier had an unemployment rate of 5.4 % in 2015, the lowest in the District.

In terms of employment, the sectors that contributed the most to Bergrivier's employment in 2015 were the agriculture, forestry and fishing (47.3%), wholesale and retail trade, catering and accommodation (14.6%), and the general government (9.5%) sectors.

As the agriculture and fishing sector contributes the most to employment in the West Coast, many households are dependent on this sector. This highlights the importance of sustainable job creation within this sector which is typically characterised by lower wage levels and seasonal employment. The majority of Bergrivier's formally employed are low-skilled (56.5 %) and semi-skilled (30.4 %), which is in line with the economy's reliance on the agricultural sector. Skilled formal employees have been growing between 2005 and 2015; while semi- and low-skilled formal employees have declined across the same period.

The municipality's LED Strategy (2015) identifies Bergrivier as a medium growth potential municipality with a potential for development around economic infrastructure and around building an inclusive rural economy. Agriculture, agri-processing and tourism are key sectors targeted for growth in the LED Strategy. Piketberg, and Velddrif have a growth potential rating of medium, while Porterville has a high growth potential rating.

From an economic perspective, the impact of the ongoing drought in the Western Cape on the agricultural sector in Bergrivier is anticipated to be severe. Whilst no data relating specifically to Bergrivier in this regard were able to be sourced at time of writing, a report produced by the WCG: DoA on the impact of the drought suggests

major consequences have manifested across various agro-climatic regions and associated commodities, and an extended impact along the value chains is anticipated (WCG: Department of Agriculture. Informing the Western Cape Agricultural Sector on the 2015-2017 Drought. November 2017).

With the functional roles of towns such as Piketberg, Velddrif and, to an extent, Porterville including some processing of produce, logistics and the provision of retail and business services to surrounding rural areas, the impact on the secondary and tertiary economic sectors is also likely to be negative.

Arising out of the LED strategy formulation process the Bergrivier Economic Development Forum has been established, and it has developed relationships with the West Coast Business Development Centre.

It is anticipated that much emphasis will, in future, need to be placed on further extending strategies (including Smart-Agri, Working for Water, Green Infrastructure programmes and others) to secure the resilience of the Bergrivier local economy against the impacts of water shortages and other manifestations of Climate Change on the primary, secondary and tertiary sectors of the economy.

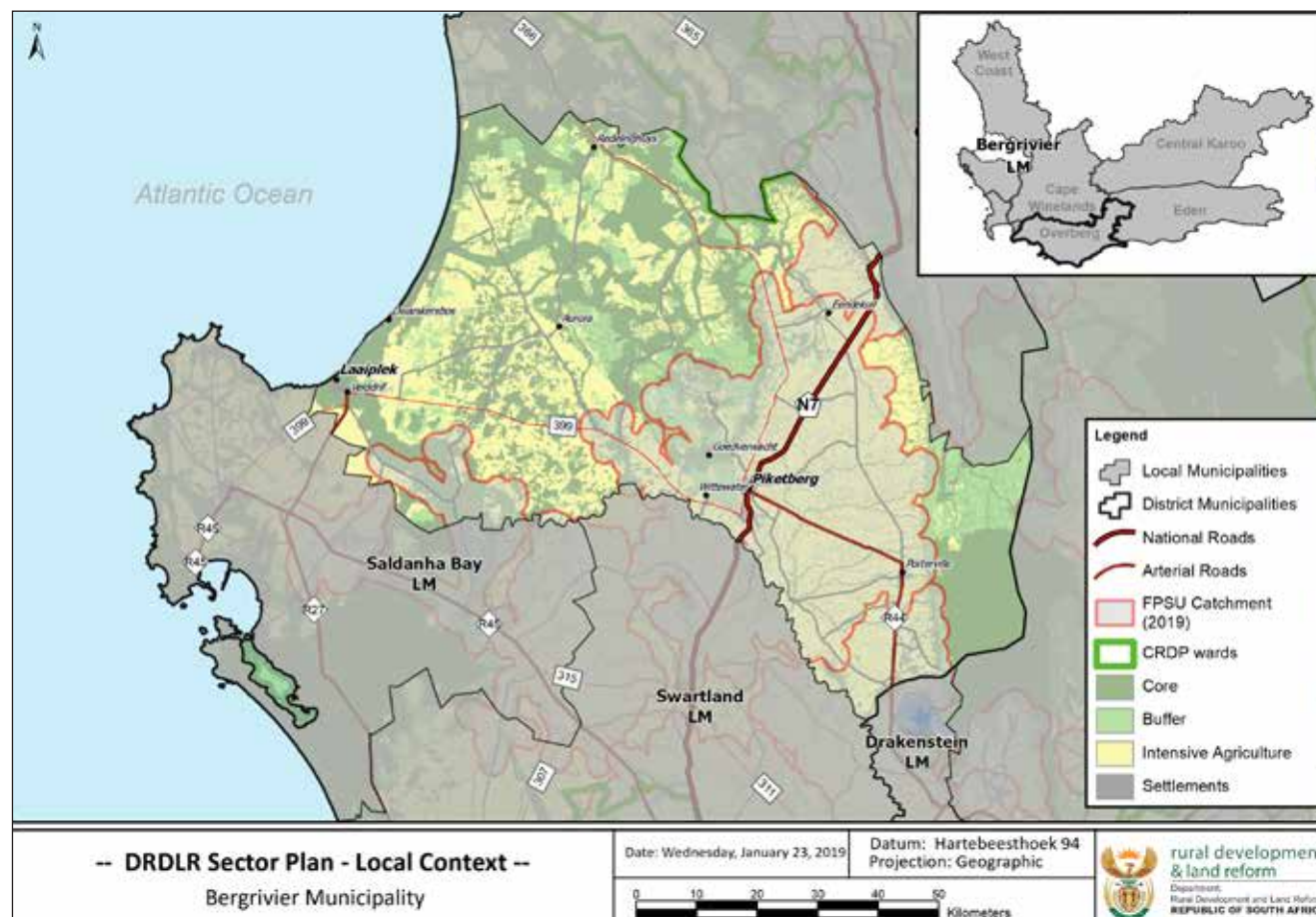


Figure 41. DRDLR Sector Plan for Bergrivier Municipality (DRDLR 2019)

3.2.1.1.5 Land and Agrarian Reform

In terms of the government's Agri-Park programme, Piketberg has been identified as a Farmer Production Support Unit (FPSU) as noted above. In addition, Bergrivier has had a number of land reform projects implemented within the area that encompass the Proactive Land Acquisition Strategy (PLAS) and the Rural Enterprise and Industrial Development (REID) programme.

In addition, the rural settlements of Goedverwacht, Genadenberg and Wittewater belong to the Moravian Church, where it provides access to residential sites and food gardens as well as larger lands for cultivation (wheat) and livestock (sheep) farming. These areas are potential sites for collaborative developmental and governance arrangements and it is worth noting that, in 1996, the Moravian Church and the then Department of Land Affairs signed the so-called Genadendal Accord, which committed the Church and the state to work together towards achieving land tenure reform and security for the residents of these areas. Given the new impetus being accorded to the topic of land reform in 2018, this may hold opportunities for further exploration in a participatory and partnership process, going forward.

3.2.1.2 Minerals and Mining Sector

The significance of mining and mineral processing and handling within the Bergrivier Municipality (perhaps particularly its rural areas and labour-sending communities) is seen to relate to the following aspects:

- I. Mining is one of the leading economic drivers for infrastructure development within the Greater Saldanha Region (which includes the Bergrivier municipal area);
- II. Construction materials (e.g. aggregates, construction sand) are fundamental to enabling urban and rural development and infrastructure maintenance. As such these resources should not be stigmatised but rather considered as an integral municipal land use with appropriate recognition and regulation, when required for utilisation;

Key Considerations

In general, the mining sector is characterised by the following considerations:

- I. The locations of mineral resources are "fixed" and land uses associated with the exploitation of minerals cannot be located in alternative localities, should this be preferable for impact-related reasons;
- II. Access to strategic minerals are usually "non-negotiable";
- III. Haulage distance (especially in relation to construction materials) impacts directly on construction and development economic feasibility, therefore favouring resource exploitation in close proximity to urban areas, where possible;
- IV. The potential related to the Department of Mineral Resources (DMR) "small miner" programme, which is intended to facilitate mining opportunities (e.g. mining permits) for previously disadvantaged individuals;
- V. Benefits related to livelihood opportunities for labour-sending communities; and
- VI. Benefits to be derived from community-based "social and labour plans" to labour-sending communities, which is a requirement of mining companies that are awarded "a mining right" by the DMR.

Mineral Occurrence, Mines and Processing in Bergrivier

Mineral occurrence (Council for Geoscience, 2014), mines and mineral processing in the Bergrivier municipal area include the following:

- I. Limestone and slaked lime at De Hoek mine and PPC cement manufacturing plant;
- II. Coast-parallel shell deposits inland of Dwarskersbos, which are utilized in the production of lime;
- III. Limited mining of construction materials (i.e. sand, gravel and aggregate) from small borrow pits/ quarries in support of local construction and maintenance (e.g. gravel roads);

- IV. Salt production including:
 - Limited salt production at inland pans along the coast north of Laaiplek and north of Dwarskersbos
 - Off-stream salt production along the west bank of the Berg River at Velddrif
- V. Proven reserves of tungsten and molybdenum in Moutonshoek Valley + -50km north-west of Piketberg by road;
- VI. Alluvial and Aeolian sand deposits (i.e. construction sand) in the Sandveld;
- VII. Reserves of lignite north-west of Aurora;
- VIII. Industrial sand (hill-wash sand) previously mined + -11 km north-west of Piketberg, with such sand used by PPC's De Hoek cement factory as an additive to cement clinker and in the manufacture of tile cement, the former use now replaced with silica slag from Saldanha Steel as a flux in cement manufacturing.

Possibly the main consideration when exploitation of mineral resources are proposed is the balancing of social and economic factors with environmental impact. In Bergrivier, this consideration is heightened given the importance to the local economy of the primary sector (agriculture) and the recognition of the socio-economic development potential of the tourism industry, both of which are reliant on the preservation and/or wise and sustainable utilisation of environmental resources such as water and natural areas that are marketable (e.g. scenic routes; Verlorenvlei; eco-tourism and adventure tourism offerings etc.).

3.2.1.3 Social Facilities

Bergrivier currently has 25 school facilities (21 primary and 4 secondary – some combined) serving an increasing amount of about 8500 learners, with no new schools being built recently. However, additions have been made, with the number of schools with libraries increasing from 9 in 2014 to 13 in 2016. To alleviate funding challenges, some of the fee-paying schools became no-fee schools, representing 65% of schools in the area.

The relatively high matric pass rate is of little significance if it is considered that 31.7 % of the learners are dropping out before matric. Further education and training opportunities in Bergrivier are also limited by the absence of any tertiary (or technical) education facilities in the Municipal Area, and Bergrivier is the only Municipality in the West Coast District without a FET College. This becomes evidenced by the fact that only 6 % of school leavers have some form of tertiary education.

Skills development is a serious challenge given that without these opportunities the youth cannot prepare for the potential employment market. Skills are an essential contributor to the development of individuals, businesses, societies and economies. Their importance is even more pronounced in the South African context where high levels of structural unemployment among the youth is still more prevalent than in other emerging economies. The overall picture in skills development in Bergrivier is discouraging as 58.6 % of the population is considered “low-skilled”.

In terms of primary health facilities Bergrivier has the lowest number of health facilities in the District, with 3 primary health care clinics, 2 district hospitals, 8 ART clinics/treatment sites and 14 TB clinics/treatment sites serving the area. With only 7 mobile satellite clinics, increased access to mobile medical services is critical for the Bergrivier rural citizens due to sometimes vast distances between rural towns and health facilities being much greater than in the urban areas. Combined with the relatively lower population per square kilometre in rural areas, ambulance coverage is also crucial in rural areas in order to maintain adequate coverage. With 1.8 ambulances per 10 000 inhabitants in 2016, Bergrivier is slightly higher than the district average of 1.5.

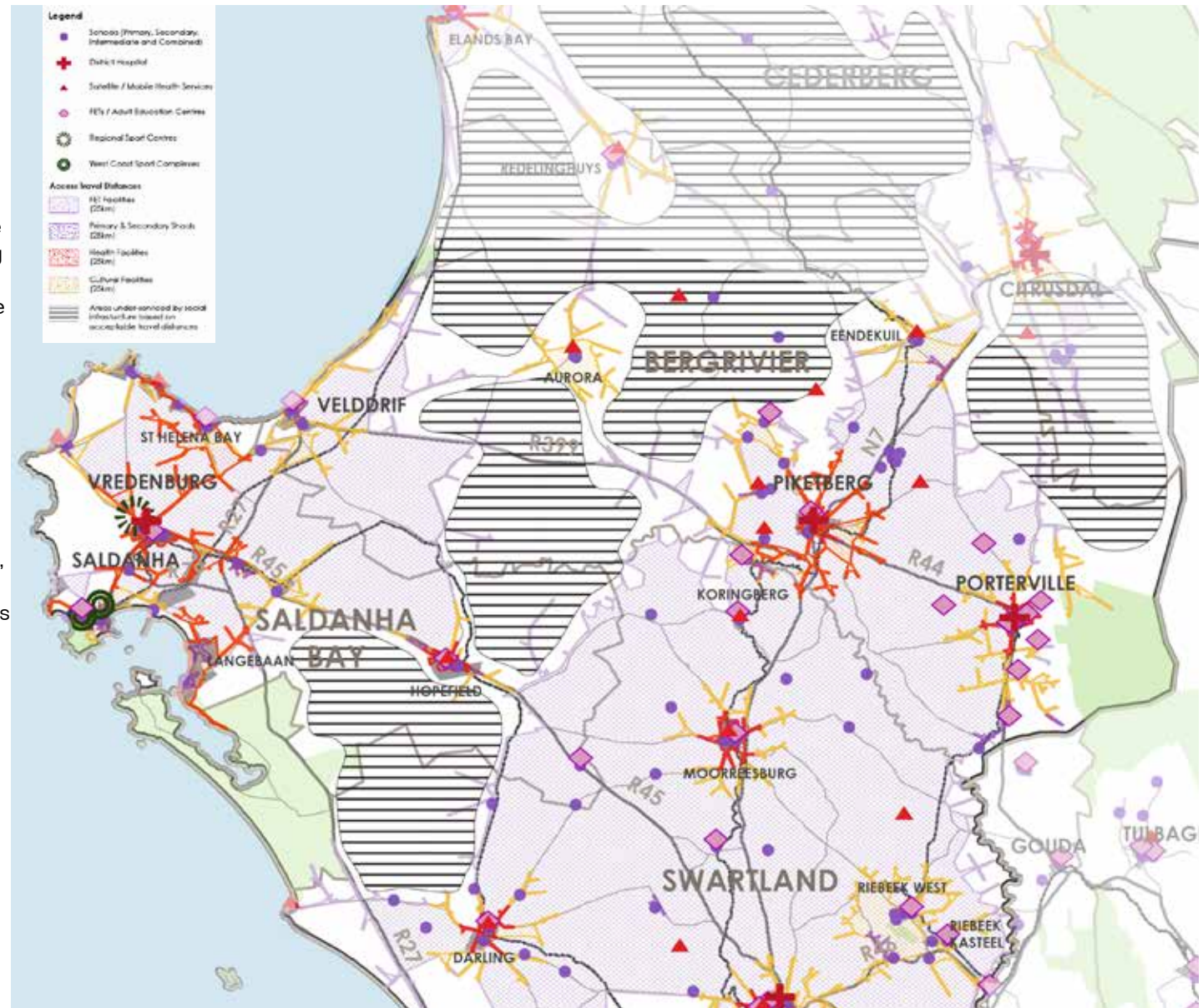


Figure 42. Social facilities accessibility based on travel distance standards - highlighting under-served rural areas (work produced as part of the WCG DEA&DP GS RSIF Social Infrastructure Accessibility Study, 2017)

3.2.2. Key Challenges

3.2.2.1 Legacy Challenges

- Inequitable distribution of opportunities and benefits to participate in the local economy
- Inequitable distribution of land ownership
- Historical skills deficits amongst the poorest communities
- Stagnation after relatively good levels of growth due to in migration pre-2011

3.2.2.2 Current challenges

- Displacement of the farm worker population given agricultural mechanisation, recessionary climate, farm property consolidation and non-agricultural land use
- Continuing skills deficits in relation to the needs of the economy in the region
- Social pathologies related to alcohol and drug dependency, including Foetal Alcohol Syndrome, crime and violence
- Continuing challenges in ensuring appropriate levels of access to social services, especially in rural land areas that are more remote from the main towns and settlements
- Continuing challenges in ensuring excellence in social services, particularly early childhood development and foundation schooling

3.2.2.3 Future challenges

- Accommodating migrants and job seekers in the economy by promoting employment-driven urban and rural economic growth that can utilise the pool of unskilled and semiskilled job seekers
- There is a need for improved access to service delivery points especially in rural areas, where people have to commute great distances to access services

- Addressing rural poverty and vulnerability due to joblessness, homelessness, tenure and food insecurity
- Addressing increasing demand for equitable access to rural land and resources, including development support services
- Creating platforms and forums to build and/or strengthen collaborative and partnership-based approaches to socio-economic development

3.2.3. Opportunities

- Encourage and promote Eco tourism and Heritage tourism with equal status and vigour
- Investigate and foster the regional development potential in overlap with neighbouring areas by means of the development of overarching themes such as identified in the WCSDf
- Promote and enhance the Bergrivier Municipality as a unique destination for discerning travellers with unrivalled eco-tourism and authentic cultural heritage tourism opportunities (Paragliding, hang gliding, hiking, fauna and flora viewing, rock art examples, unique towns and settlements, educational and community inclusive museum experiences)
- Continue to invest in the ongoing identification and maintenance of all cultural heritage by involving all communities
- Capitalise on the recent increased appreciation as evidenced by:
 - increased numbers of visitors to local museums (Porterville, Piketberg)
 - increased numbers of participants in annual sporting events such as the Bergrivier Canoe Marathon (Paarl to Velddrif) and the recent Pre-World Cup Porterville Paragliding Open Competition (Porterville)
 - increased publicity afforded to the west coast surfing opportunities (Big Bay, Haakgat. Melkbos, Ganzekraal, Yzerfontein across the Berg River to

Dwarskersbos and onto to Elandsbay, Verlorenvlei and Wadrifoutpan¹

- Promote and further explore the potential benefits of collaborative approaches to land reform and agrarian reform (e.g. Witzenberg PALS private land reform initiative)
- Embrace and develop further SmartAgri approaches towards improving efficiencies in agricultural production
- Create opportunities through networking of business development forums for the further diversification of the Bergrivier economy

¹ <http://www.getaway.co.za/travel-stories/road-trips/cape-surfing-route-west-coast/>

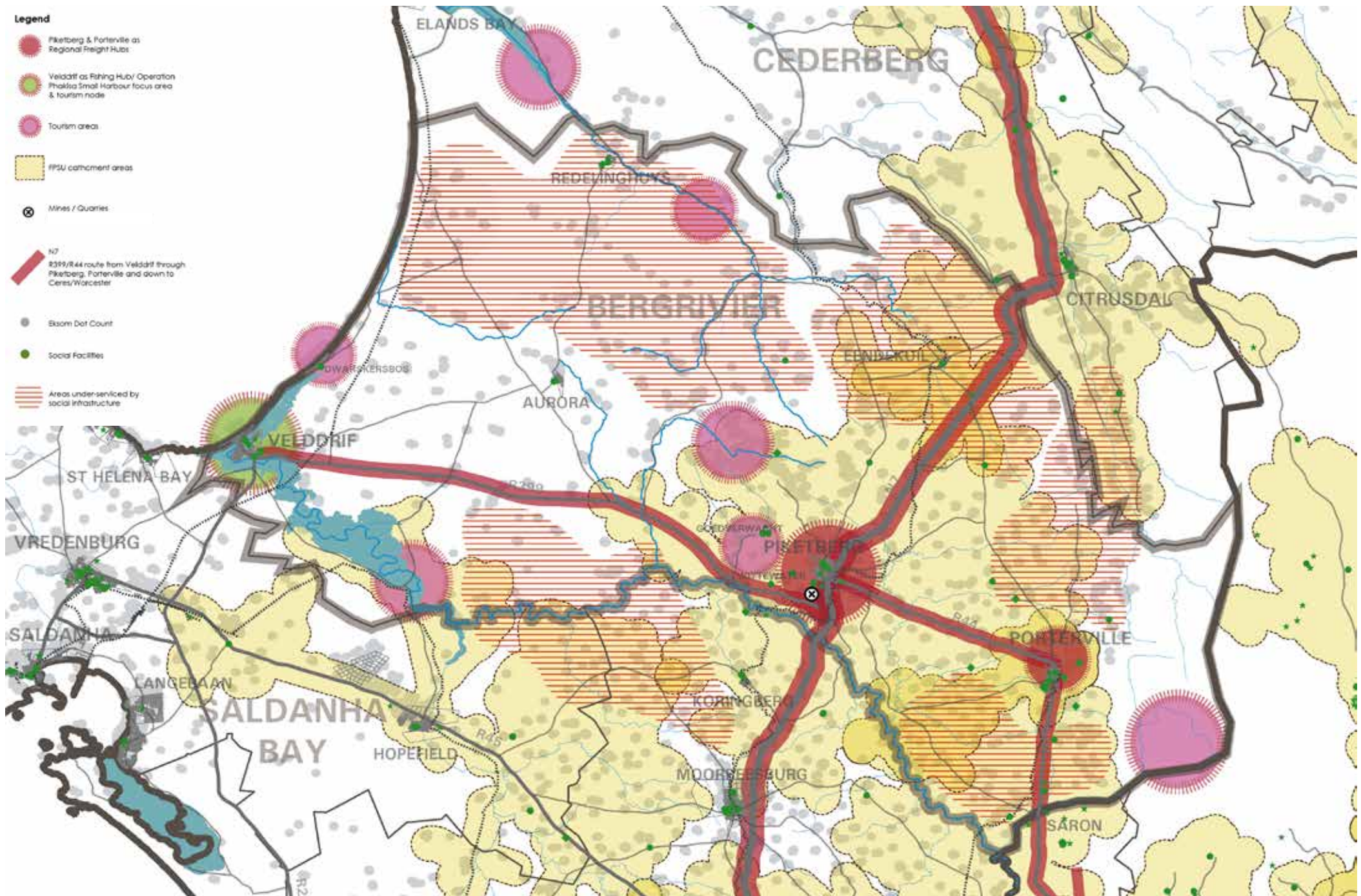


Figure 43. Synthesising socio-economic opportunities and challenges in Bergrivier

3.3. Built Environment Analysis

3.3.1. Overview

3.3.1.1 Built Heritage

The historical pattern of settlement has been dictated by the availability of water and grazing land. During pre-colonial times local Khoi inhabitants exploited the marine resources of the West Coast. After the arrival of Portuguese seafarers, the mouth of the Berg River became an important harbour point and, before the end of the 17th century, was used as a harbour by free burghers stationed on the West Coast by the Vereenigde Oost-Indische Compagnie (V.O.C.) to supply the Company with fish. Settlers ventured inland to trade and farms were leased in the Piketberg area during the early 1700's, using the river to transport grains and commodities between Cape Town and the West Coast Ports. Outposts were established as agrarian colonial settlements where grazing areas were found for livestock and churches and settlements grew during the mid-1700's.

During the mid 1800's the Moravian mission stations at Wittewater and Goedverwacht were formed, Piketberg was formally established as a church town, and salt mining and exploration areas were already established at Velddrif which began as an informal fishing village in 1850. During this time substantial Dutch/Afrikaner migration away from the Cape and British rule occurred, leading to the establishment of vernacular settlements in the outlying areas of the Sandveld and Verlorenvlei, and the church towns of Porterville and Redelinghuys. British influence from this period is evident in the region in the Georgian and Victorian styles seen in the architecture of buildings in these church towns.

By the beginning of the 1900s, roads were formalised and the railway line was extended from Malmesbury to Piketberg. Growth in the fishing industry affected the areas of Velddrif and Laaiplek and the area saw an increase in urban growth occurring, especially resort growth post 1960. In response to increased urban development, nature reserves such as the West

Coast National Park was established in 1985, and the Grootwinterhoek Wilderness Area and others have raised an awareness of the importance of the conservation of cultural landscapes and scenic resources.

Several noteworthy and protected buildings are situated in Piketberg (see Figure 44). The Goedverwacht and Wittewater settlements also have considerable historical, architectural (although often degraded - see Figure 46), aesthetic and social value. Redelinghuys in the Sandveld region on the Verlorenvlei River is known as the Potato Capital of the Sandveld. It is also the area where Rooibos grows in its natural state. Aurora has high heritage value in terms of its distinct settlement qualities and surviving historic fabric as well as its association with early astronomical research (the nearby Arc of Meridian beacon is a Provincial Heritage Site). The Langhuis in the



Figure 44. Dunn's Castle in Piketberg, built in the 1890s for George Dunn and designed by Sir Herbert Baker in a Victorian style.

Verlorenvlei area is regarded as a unique representation of a distinctive vernacular architectural style developed from the first permanent buildings erected in the late 1800s.

These unique heritage resources of Bergrivier are noteworthy for their role in the evolution of the West Coast region in terms of the fishing industry, transportation of goods, cultivation patterns and the establishment of mission stations. Heritage significant archaeological sites in the area draw substantial attention to pre-colonial and post-colonial significance as well as its noteworthy world recognised environmental importance.

These elements are currently under underutilised as heritage resources for conservation, tourism and research and the majority of the built form in this region is under threat due to inappropriate developments and lack of conservation.



Figure 45. Dutch Reformed Church Redelinghuys



Figure 46. Deteriorating historical building in Wittewater

Table 9. Settlement Establishment in Bergrivier

Settlement name	Reason for establishment	Date established
Piketberg	Church town, irregular grid	1836
Goedverwacht	Mission settlement, river ribbon	1845
Velddrif / Laaiplek	Fishing settlement, river ribbon	1850
Wittewater	Mission settlement, informal	1859
Porterville	Church town, regular grid	1862
Redelinghuys	Church town, regular grid straddling arterial	Mid 1880's
Aurora	Church town, regular grid	1906

3.3.1.2 Settlement Role, Urban Form and Land Use Patterns

Bergrivier Municipality consists of eight settlements ranging in size and function, of which three can be classified as towns of significance within the regional context, namely Piketberg, Porterville and Velddrif.

Piketberg is the main town of the Bergrivier Municipality and functions as a sub-regional node through providing primary agricultural services to the surrounding area. The economic base of the town is thus orientated towards agriculture. In addition to its location on the N7 development corridor of the West Coast, the town also has several other cultural tourism attractions, yet very little tourism development has emerged. Reasonable growth is foreseen in Piketberg because of the town's nodal location, its supportive region and status as the administrative centre of the municipal area.

Velddrif as well as Laaiplek is a coastal town characterised by an economic landscape that recently changed from a centre for services and processing of fishing and agricultural products to a more service-based tourism town. Situated on the pristine Berg River estuary, the town is bordered by the banks of the river, the Atlantic Ocean and surrounding cultivated farmlands. Laaiplek is host to the mechanized components of the fishing industry, boasting a vibrant yet somewhat degrading central business district. Velddrif serves as a community and service centre while also providing economic opportunities and services to the community of Noordhoek.

Porterville is a town at the foot of the Olifants River Mountains, considered a central and established town with a long history and a solid base in the agricultural sector with distinct administrative functions situated in a mixed farming region.

Dwarskersbos, situated in close proximity to Laaiplek, primarily functions as a holiday destination, with strong recent growth in the property market due the demand for plots along the coast and the tarring of the road between Velddrif and Elands Bay.

Eendekuil, Aurora and Redelinghuys are small rural settlements whose economic base revolves around their role as low-order service centres for the agricultural activities on the surrounding farms. These towns, providing housing for farm workers or retired people, are mostly stagnant and depend on Piketberg for higher-order services.

The rural settlements of Wittewater and Goedverwacht are situated just west of Piketberg, nestled in the fertile Piketberg Mountain Valley, on land that is owned by the Moravian Church of South Africa (MCSA) and administered, managed and operated by MCiSA Holdings (Pty) Ltd, under the guidance of Overseers Committees. Goedverwacht has a rich cultural historical heritage and boasts beautiful historical buildings, including a Mission Store, water mill, an arts & craft centre and overnight accommodation. Wittewater is known for its simple thatched houses built for the Moravian Missionaries

who could not live at Goedverwacht. These areas have experienced limited formal development over time due reportedly to the complex social relationships within and between the communities and the MCSA, including issues that remain unresolved in relation to land tenure arrangements. The Genadendal Accord signed by the MCSA and the then Department of Land Affairs (now DRDLR) in 1996 sketched out a framework within which land tenure reform could be explored. The challenge now appears to be to manage community wishes and to create a framework for the Municipality and other agencies to engage with MCiSA Property Management and the communities on matters related to environmental management, land use and land development processes, and the provision of services and infrastructure on a sustainable basis, within a generally accepted legal framework that makes provision for the recognition of the applicability of NEMA, SPLUMA, LUPA and the Bergrivier



Figure 47. Google Earth image of Redelinghuys's spatial grid structure



Figure 48. Spatial barriers between Porterville's town centre and the lower income areas of Monte Bertha



Figure 49. Low income housing on the periphery of Piketberg



Figure 50. Low order retail activities along Aurora's main street

Municipal By-Law Relating to Municipal Land Use Planning in these areas.

From the perspective of its landscape and settlement pattern, the Bergrivier municipal area may be described as having a dominantly rural character and, consequently, the main towns and settlements are strongly related to the agricultural activities in their hinterland. This functional relationship between the towns and settlements and surrounding land areas is underscored by the linkages and interactions that occur between these different urban and rural components. Much of the economic activities in the towns is based on the market provided by the residents in rural areas, with local urban residential population thresholds being low. This is especially evident in the main centre of Piketberg, where weekly and monthly surges of commercial activity are driven by rural residents from the surrounding sub-region "coming to town" to access shopping and other allied opportunities.

The rural-urban linkage between towns and hinterland areas is a particular feature of Bergrivier, which needs to be further explored in the Municipal SDF process.

3.3.1.3 Housing

The majority of households in Bergrivier area reside in formal dwellings (91,6 %) whilst 8,4 % of the households reside in either in informal, traditional and other dwellings in 2016. The number of formal dwellings in Bergrivier increased between 2011 and 2016 at an average annual rate of 2.9 per cent, which translates into approximately 459 additional formal dwellings per year. This increase in formal dwellings was however unable to keep pace with the growth in the total number of households, resulting in the proportion of formal households declining from 93.4 per cent in 2011 to 91.7 per cent in 2016. There is therefore a need for housing throughout the Municipal Area, increasing in 2011/12 from 4111 houses to 4991 in 2016/17. The municipality is responsible for setting housing delivery goals for the municipal area and to identify and designate land for housing development. Key challenges relate to the scarcity of suitable land for housing and the high cost of bulk and service infrastructure.

Households

19 074

Households

less than a fifth of the figure in West Coast:
129 863

less than 10 percent of the figure in Western Cape:
1 933 878

Household ownership

60.9%

Households fully owned or being paid off

a little less than the rate in West Coast: 63.31%

a little less than the rate in Western Cape: 65.09%

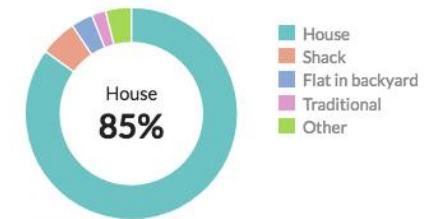
5.6%

Households that are informal dwellings (shacks)

about half the rate in West Coast: 12.23%

about one-third of the rate in Western Cape:
16.55%

Households by type of dwelling Chart Options



Source: Community Survey 2016

Households by ownership Chart Options

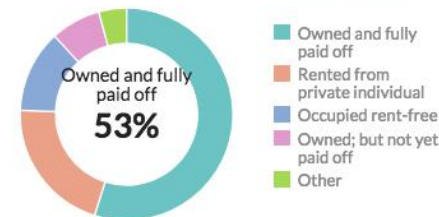


Figure 51. Summary of household types and conditions of ownership (Source: wazimap.co.za/profiles/municipality-WC013-bergrivier/)

Table 10. Current Housing Need per Town

TOWN	Housing Need (2018)
Piketberg	1967
Velddrif / Laaiplek	1303
Porterville	1100
Eendekuil	229
Redelinghuys	239
Aurora	66

Recent developments include the installation of Infrastructure required for the development of 116 low cost houses in Porterville. These houses (Project was completed 15/16 financial year) were handed over to the beneficiaries in September 2016. This was the first time in over 10 years that low cost housing was built in Porterville. In addition the Municipality concluded services for 107 erven in Velddrif as well as services and electricity on an additional 89 erven in Velddrif. STATUS? The Municipality completed the services for the 137 erven on Erf 1283 in Velddrif. A planning application for 23 erven in Eendekuil (IRDP Project, services and top structures) are in the process and awaiting approval from the Department of Human Settlements. STATUS?

Table 10 indicates the housing needs per town as reflected by the Municipality's Housing Waiting List as at June 2018. The housing need for the municipality has increased from 4000 in 2011/12 to almost 5000 houses in 2016/17. This housing need is currently under review

through a process to re-examine Housing Waiting Lists to remove people who are deceased, who are no longer resident in the area, or who have already received a subsidy.

3.3.1.3.1 Housing and Spatial Transformation: Understanding the Housing Need to be Addressed

Available data on the housing need in Bergrivier presently (September 2018) do not permit the finer disaggregation of the listed need into types of housing needed or income classes requiring supply. However, the Municipality's Housing department assumes that the vast majority of the need is in the sector represented by households earning less than R3,500 per month: the so-called RDP housing need. Anecdotal evidence from inputs at public consultations, however, suggests that a broader level of need manifests in the main settlements of Piketberg, Porterville and Velddrif/Laaipek, largely in the so-called GAP housing market of households earning between R3,500 to R15,000 per month.

The current Housing Pipeline reflected in Table 11 sets out the intended programming of housing per settlement in the municipal area over the period ending 2034 (Bergrivier Municipality, 2016, Housing and Infrastructure Plan):

Noting the above, however, it is understood that, at the time of writing, the Housing Department has initiated a process to review its approach towards housing development away from a targeted and annualised sequential model (that is, the approach of programming a set number of housing units for development, targeted at a specific settlement in a given year and then moving on in subsequent years, one settlement per annum).

Instead, the proposed approach is to be a more global, Business Plan-based method. This entails confirming the quantum of housing need in the Bergrivier Municipal area in reference to an updated Housing Waiting List and, based on the estimated funding requirements to develop the required number of units plus enabling infrastructure, submitting a holistic Business Plan to the provincial Department of Human Settlements for approval and, in accordance with a planned delivery schedule that takes into account lead-in times for land release, planning approvals, and infrastructure development, leads to the release of an annual funding grant allocation amount to permit the phased and integrated development of both

Table 11. Current Housing Pipeline

Priority	Project	Town	Start	End	No. of Units
1	GAP	Piketberg	July 2018	July 2019	46
2	IRDP	Eendekuil	July 2018	July 2019	23
3	GAP	Porterville	December 2019	December 2020	20
4	IRDP	Piketberg	July 2020	July 2021	100
5	IRDP	Porterville	December 2021	December 2022	100
6	GAP	Piketberg	December 2021	December 2022	20
7	IRDP	Velddrif	July 2023	July 2024	100
8	IRDP	Porterville	July 2026	July 2027	100
9	IRDP	Aurora	December 2027	December 2028	20
10	IRDP	Piketberg	December 2027	December 2028	100
11	GAP	Piketberg	July 2030	July 2031	20
12	IRDP	Porterville	July 2033	July 2034	100

housing and infrastructure. This approach appears to hold much promise to enable a more sustained and flexible approach to the delivery of housing units.

3.3.1.3.2 The Challenge of Spatial Transformation and Funding Different Housing Typologies

One of the key directives taken from current legal and policy frameworks (e.g. the SPLUMA principles and the IUDF Strategic Goals) is the need to facilitate spatial transformation through developing affordable housing for ownership and/or rental in locations that are more favourably located in relation to social, economic, cultural and employment opportunities. This is variously identified as a need to promote spatial transformation and spatial integration within the prevailing settlement patterns that currently still characterise South African towns and cities.

A number of initiatives in this regard are underway or in the offing and, in the Western Cape, programmes such as the Regional Socio-Economic Programme (RSEP) are taking the lead in seeking to identify strategically located sites for the development of facilities, businesses, public open space and residential opportunities that would serve to “knit” the fragmented urban fabric of towns and cities more closely together.

However, despite the recognition in law and policy of the need to promote infill development, increases in densities and a wider range of residential development patterns to move away from the sprawling urban (suburban) model that has come to typify most towns in South Africa, a key challenge remains the limitations of the available housing funding tools and mechanisms underwritten by the state.

For the predominant need in the income bracket of R0-R3,500 per household per month, the state provides options for a single subsidy for ownership units, the Integrated Residential Development Programme (IRDP), as well as a programme that addresses this income cohort for rental options (the Community Residential Units Programme, or CRU).

Given its funding limitations (as well as other factors), the IRDP subsidy programme, in particular, has proved inadequate to date in enabling the development of different housing typologies other than the single-dwelling on a single erf model that currently embodies the suburban sprawl pattern that policy seeks now to curb. Where higher density built forms have been attempted, these have had to be either heavily cross-subsidised or have additional funding sources to enable their development.

For income brackets between R3,500 to R15,000, the state provides a subsidy to individual households on a sliding scale: the so-called Finance- Linked Individual Subsidy Programme (FLISP). Under FLISP, households earning R3,501 per month eligible for a once-off subsidy of R87,000 towards the purchase of a mortgage-backed dwelling unit to a maximum value of R300,000. Households at the upper limit of the qualifying income bracket would qualify for a subsidy of R10,000.

Another rental option is available through an institutional subsidy, the Social Housing Programme, through which the state subsidises accredited Social Housing Institutions (SHIs) to develop rental accommodation for households earning R5,500 to R15,000. To date, SHIs have been most successful at developing more innovative, higher density residential accommodation in well-located areas, with such areas having had to be designated as Provisional Restructuring Zones (PRZs) by the Social Housing Regulatory Authority (SHRA) in order to qualify as a funded Social Housing project. However, of relevance to the Bergrivier Municipality is the fact that, to date, SHIs have mainly targeted larger urban centres as they have determined that their threshold for a minimum number of units for a single project is 250-300 units (for reasons of operational viability), which is usually only achievable within a town population of upwards of 65,000-70,000 (Wiseman, 2018).

All of the above indicates the following are key challenges to achieving increased densities and different housing typologies to meet the needs of the un-housed in Bergrivier:

- The current small base populations of the towns make the provision of Social Housing unviable
- State grant funding supporting IRDP housing development is limited and does not facilitate the development of innovative, higher density housing models

A positive aspect is that the towns and settlements in Bergrivier are small and, for the most part, “walkable”. This creates the potential that, where strategically well-located erven may be identified and acquired for the purposes of residential development, opportunities exist to attempt developments that seek to integrate the urban fabric and soften the fragmented interfaces between suburbs, over time.

Given the current housing backlog and the relatively low additional growth predicted off the small base population, innovative urban design frameworks could serve to ensure that a managed process of sustained investment in infrastructure, housing and facilities could serve the communities of Bergrivier well and bring them closer together. Accordingly, a key priority for the Urban Focus Area Spatial Development Frameworks is the identification of such strategically located sites and infill opportunities.

In addition, options to encourage the re-development of decaying or under-utilised properties (so-called brownfields development) should be explored through the application of appropriate measures such as a proactive rates policy and the zoning (Overlay Zoning) of areas that have the potential for such re-development.

3.3.1.4 Transport

The analysis is based on information contained in the West Coast District Municipality Integrated Transport Plan 2015 – 2020, as reviewed at March 2016. Supplementary information is drawn from the report entitled Greater Saldanha Regional Spatial Implementation Framework: Regional Transport and Freight Assessment, DEA&DP, Sept 2017.

3.3.1.4.1 Road and Rail Network

The main road system in the Bergrivier Municipality consists of a National road (the N7, running in a north to south direction through the area and carrying around 4,000 vehicles per day), and Provincial roads (R44, R27, R399, R365, R366 and MR527) linking the various towns with each other.

The movement of freight within and through the municipal area largely occurs along the N7 north-south route, with major origin and destination points being the Greater Cape Metro, the Northern Cape and Namibia.

A freight railway line (Transnet Freight Rail, TRF) runs from Bellville via Kalbaskraal to Bitterfontein in the Matzikama Municipality, to the north. There are several stations within the Bergrivier Municipal area that form part of the TFR network i.e. De Hoek, Piketberg, Burgers, Pools, Eendekuil, Droeryskloof and Het Kruis. Interviews with stakeholders suggest that rail freight has declined, and that road freight has increased steadily over a period of time.

3.3.1.4.2 Ports and Maritime Transport

Velddrif is the only town in the Bergrivier municipal area that has a small port, which is mostly used for fishing and recreational purposes.

3.3.1.4.3 AirTransport

There are no commercial airports within the Regional Area with the nearest being Cape Town International Airport. However, several municipal, military and private airfields are listed within the District ITP and shown in Table 12.

3.3.1.4.4 Public Transport

Due to prevailing low population densities across the Bergrivier Municipal area, travel volumes are relatively low, which makes public transport services inefficient and not cost effective.

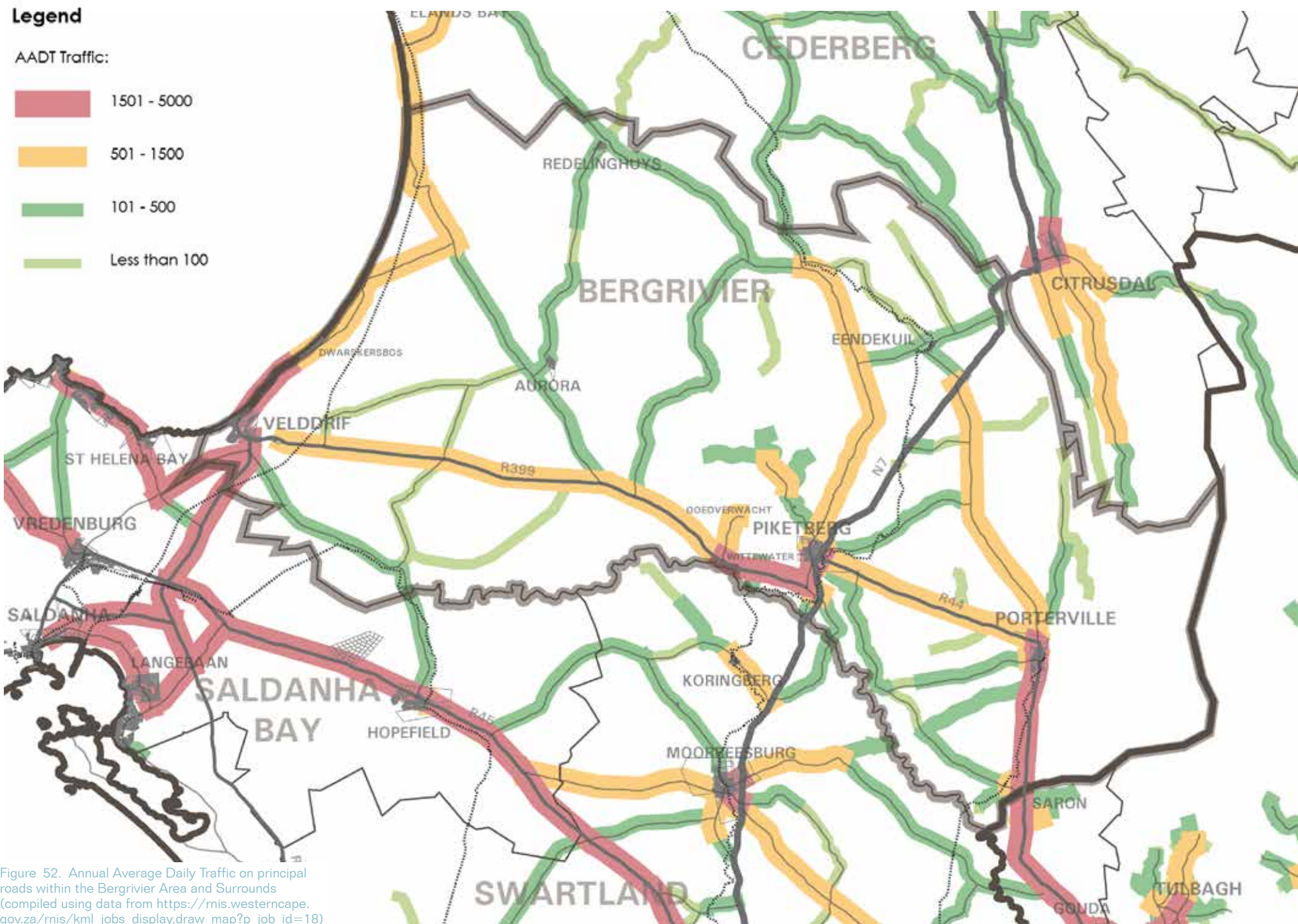
Mini-bus taxis are the dominant mode of public transport in the Bergrivier Municipal area, primarily due to the flexibility of the mini-bus taxi industry to adapt to the various passenger demands in each town. The highest demand for taxis is registered on Friday afternoons and Saturday mornings, especially at the end of the month. During the week taxis are not fully utilized, with significantly less commuter trips made.

26 public transport routes have been identified in the Bergrivier municipal area. Most of the identified routes provide public transport needs mainly for farm workers to access local town centres from surrounding farms within the municipal area.

Long distance taxi services are reportedly provided on an ad hoc on demand basis only, with most such trips occurring on the weekends to facilitate travel to the Greater Cape Metro or larger towns in the West Coast district.

Table 12. Existing airfields within the Regional Area (West Coast District Municipality ITP 2015 - 2020)

Local Municipality	Airfield	Ownership
Saldanha Bay	Langebaanweg	Military
	Saldanha	Municipality
	Tooth Rock	Military
Swartland	Malmesbury	Municipality
	Summersveld	Military
	Boland Lugspry	Private
Bergrivier	Koedoesvlei	Private
	Ruigtevlei	Private
	Kromrivier	Private
	Porterville	Municipality



The busiest taxi ranks that have been identified in the Bergrivier Municipality are located in Piketberg and Porterville, where both ranks are formal in nature, operating several routes regularly on weekends. An overview shows that the Piketberg rank peaks between 17:00 – 18:00 on a Friday with a total passenger demand of 198 passengers, and between 12:45 – 13:45 on a Saturday with total passenger demand of 270 passengers. Broodkraal accommodates the largest passenger volume, amounting to nearly 60% of total passengers moving through the rank on a Friday and 50% on a Saturday.

From the Porterville rank, Saron accommodates the largest passenger volume, transporting approximately 75% of total passengers moving through the rank on a Saturday. The rank peaks between 16:00 – 17:00 on a Friday afternoon and between 13:00 – 14:00 on a Saturday.

There are currently no bus services for local commuters in the towns of Bergrivier Municipality. The only bus services are subsidised scholar transport services. The only long bus service that operates through the Bergrivier Municipal area is InterCape. It operates a service on a Tuesday, Thursday, Friday and Sunday. It departs from Malmesbury at 10:00 and arrives in Windhoek at 06:00 the next morning.

Of note, however, is that the provision of scholar transport services is one of the core fields of activity of the provincial Departments of Education and Transport.

3.3.1.4.5 Current DITP Projects

The maintenance and upgrading of taxi ranks are the responsibility of the Bergrivier Municipality, with a particular issue being noted around the need for the provision of shelters at a number of minibus taxi boarding points within the rural areas.

The West Coast District Integrated Transport Plan 2015-2020 (DITP) review of 2016 identified the following projects: -

1. Transport users at the Piketberg rank have identified that the roof shelters need upgrading due to the fact that the roof is designed too high and does not protect against rainy conditions. The roof shelter

needs to be lowered as well as angled towards the taxi bay area.

2. Porterville and the other smaller towns in the Bergrivier area require shelters at the waiting areas and boarding points.

3.3.1.4.6 Non-Motorised Transport (NMT)

The NMT environment is good in the main towns where sidewalks and pedestrian crossing points have been provided, however, cycling facilities are absent. The DITP suggests that non-recreational cycling is practically non-existent in the West Coast district areas with the reasons cited for this being that a culture of cycling has not been established, and that the distances are simply too great between home and places of employment. The Shova Kalula Project is part of the national Department of Transport's Non-Motorised Transport Strategy but more information on this relevant to the Bergrivier area is needed.

3.3.1.5 Waste Management

Currently, all households in the urban settlements in Bergrivier Municipality – as well as the settlements of Goedverwacht and Wittewater – have access to weekly refuse removal services. Business and other waste is removed by order.

Local landfill sites have been closed and, in terms of cooperative governance agreements with the neighbouring Swartland and Saldanha Bay Municipalities, the following arrangement are in place:

- Refuse is taken to refuse transfer stations at Piketberg, Porterville and Aurora from where it is transported to the Highlands landfill near Malmesbury in accordance with an agreement concluded with Swartland Municipality.
- Refuse from the Velddrif Transfer Station is to be disposed of at the Vredenburg landfill site as per agreement struck with the Saldanha Bay Municipality.

Whilst applications for closure permits for previously used landfill sites have been granted by the Department of Environmental Affairs and Development Planning

(DEA&DP), the rehabilitation costs of these sites remain a challenge. The rehabilitation of the Piketberg site is estimated to cost R 25.983 million, while the cost of rehabilitating the Porterville site is estimated at R 23.535 million. However, the closure and rehabilitation of the Velddrif landfill site forms part of a land exchange in terms of which the new owner will bear the costs of the required work, there.

3.3.1.6 Infrastructure

3.3.1.6.1 Water

From a water resource perspective, the Bergrivier Municipality falls within the newly established Berg-Olifants water management area (WMA), which is the result of the amalgamation of the former Berg WMA and the Olifants-Doorn WMA. The new WMA is bounded by the Atlantic Ocean to the southwest, the Orange WMA to the north and east, and the Breede Gouritz WMA to the south. It largely falls within the Western Cape Province, with the north-eastern section falling within the Northern Cape Province. It is understood that it is the Department of Water & Sanitation (DWS) intention to establish a Catchment Management Agency (CMA) for this new, expanded WMA, which will take responsibility for managing the resource base and water users' activities in the area.

In terms of water supply, the Bergrivier Municipality is the primary water services provider for the towns of Bergrivier. However, bulk potable water is provided to the towns of Velddrif and Dwarskersbos by the WCDM through their Withoogte bulk water distribution system. The bulk potable water supplied from the Withoogte WTW is augmented by abstraction of groundwater from the Langebaan Road Groundwater Aquifer System. The bulk distribution scheme is a cross-border scheme and supply water to Bergrivier Municipality, Swartland Municipality and Saldanha Bay Municipality. A Service Level Agreement between the West Coast District Municipality and Bergrivier Municipality is in place for the provision of bulk potable water to these two towns.

According to the 2016/17 Water Services Development Plan (WSDP) the various water sources in Piketberg

are sufficient and water distribution networks are also sufficient to supply water to all inhabitants of the urban areas in the Bergrivier Municipality. All water treatment plants have sufficient capacity and the reservoir storage capacities in each of the networks are sufficient to accommodate the existing water demands. However, frequent pipe failures are experienced in the water network, especially on the fibre cement pipe materials. Limited budgets unfortunately restrict the municipality to perform the required preventative maintenance and asset replacements on the existing water networks.

3.3.1.6.2 Sewer




































The various waterborne sewer networks have sufficient capacity to dispose of all sewage in these networks. All sewer treatment plants have sufficient capacity to treat the existing sewer flows in these networks. The towns of Aurora, Goedverwacht, Redelinghuys and Wittewater however do not have waterborne sewer networks as the entire town is serviced with septic tanks. Portions of Dwarskersbos, Eendekuil and Velddrif are also serviced with septic tanks.

3.3.1.6.3 Electricity

Bergrivier's electricity networks have sufficient capacity to supply electricity to all urban areas in the municipality. Large parts of the networks however do not have redundancy which can leave consumers without electricity in fault conditions.

There are miniature substations and switchgear that should be replaced due to ageing and high risk of failure, and the Monte Bertha 11kV overhead line feeder in Porterville requires upgrading as it cannot sustain any further growth into the future.

Table 13. Infrastructure upgrading requirements: Red=Upgrading needed before 2020, Yellow=upgrading needed between 2020 and 2025, Green=upgrading needed between 2025 and 2035 (Bergrivier Infrastructure and Housing Pipelines report)

Town	Water Source	WTW	WWTW	Electricity	Storage
Piketberg					
Porterville					
Velddrif					
Eendekuil					
Redelinghuys					
Aurora					
Dwarskersbos					

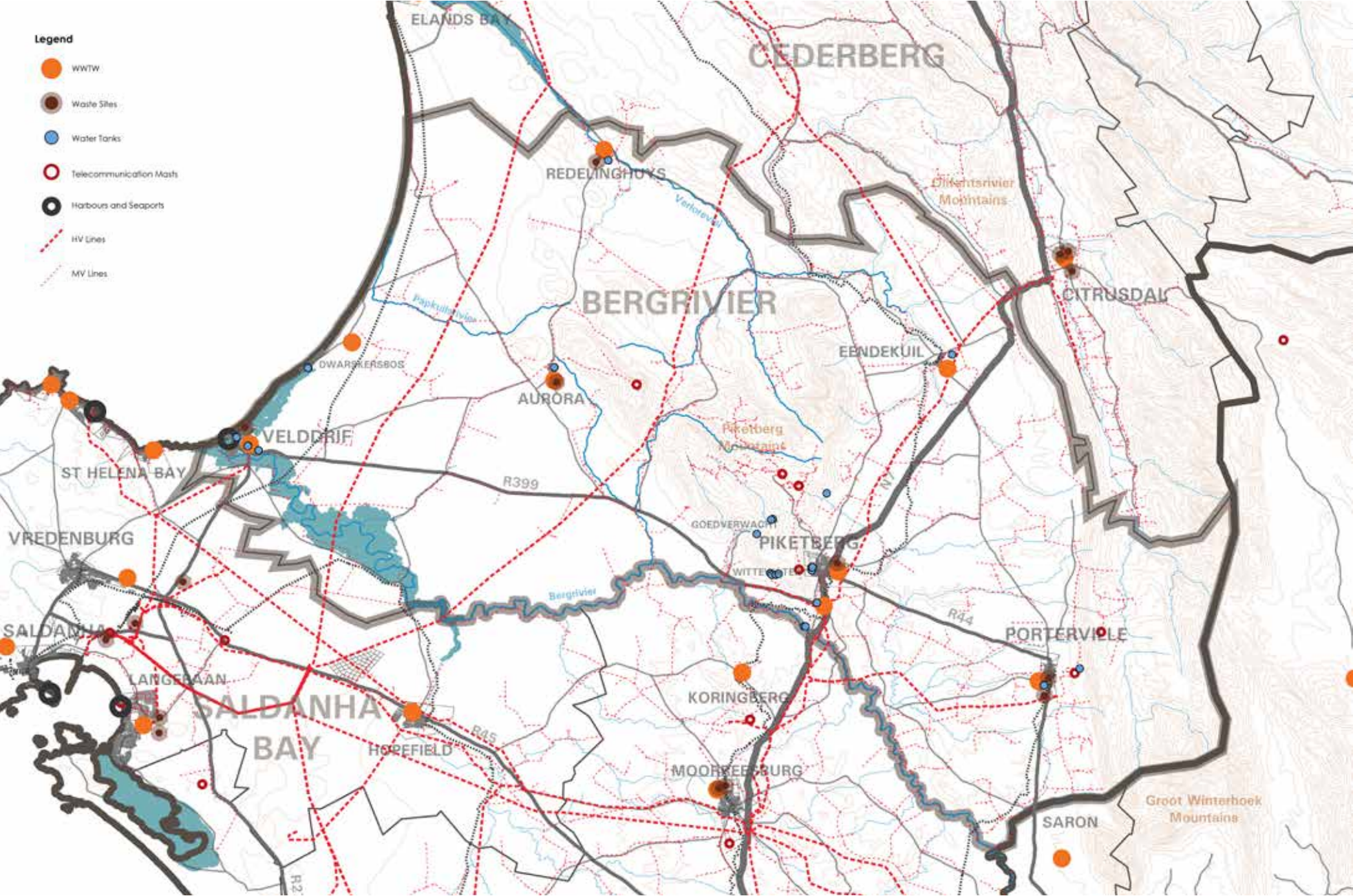


Figure 53. Infrastructure and networks relevant to Bergrivier and the region

3.3.2. Key Challenges

3.3.2.1 Legacy challenges

- Lack of maintenance of historic structures
- Inappropriate alterations and additions to conservation worthy structures and
- Over engineered road treatments and insensitive new development in the context of historic precincts have eroded the sense of place and quality of the public realm
- inappropriate suburban and affordable housing extensions – especially in the context of historic towns and villages
- More recent RDP-type housing projects not always appropriately located, characterised as mono-functional developments due to the single house on small plot nature which offers limited opportunities for socio-economic advancement.
- General lack of maintenance and upkeep of subsidised housing by the beneficiaries.
- Housing for rural dwellers and farmworkers is often seen as inadequate in terms of accommodation and services.
- The legacy of the apartheid policy of separate development and settlement still characterises the pattern of land use in towns
- The fragmented structure of most of the towns in the Bergrivier area and the disjuncture between the location of the poorest inhabitants (most reliant on public transport and/or NMT) and the location of main commercial/shopping and service areas places a burden on those least able to afford it to travel to gain access to goods and services

3.3.2.2 Current Challenges

- The current SAHRA formally protected resource list reflects a narrow view of the diverse heritage and history of the area
- No officially designated conservation areas and the absence of a comprehensive heritage inventory
- Tensions between zoning schemes, development rights and heritage management issues
- Poor location and form of recent subsidised housing schemes, away from economic and social opportunities and lacking in amenities
- Funds allocated to the municipality for housing has been drastically reduced since the last financial year
- The low-density nature of the main settlements in the municipal area means that the provision of public transport services remains commercially marginal and these are likely to remain largely ad hoc in nature
- Funding required to rehabilitate the closed landfill sites at Piketberg and Porterville is presently beyond the budgetary capability of the Municipality
- Water pressures in certain areas in Eendekuil are too low and in certain areas in Piketberg too high
- Water pressures in the Redelinghuys and Velddrif water networks are reliant on a sustainable electricity source as sufficient pressures in these areas are supplied by booster pumping stations
- Capacities of certain pumping stations in the sewer networks needs to be verified
- Protection of revenue is a challenge due to rising costs of electricity

3.3.2.3 Future challenges

- Enabling adaptive re-use of historic built form in towns for the benefit of the community as opposed to allowing deterioration, dilapidation and demolition of heritage buildings
- Providing housing at appropriate densities to create enough opportunities and achieve efficient settlements.
- Identifying feasible opportunities for the spatial transformation of fragmented and low-density urban settlements to support the more feasible provision public transport services and related infrastructure as well as more viable NMT opportunities
- Water network reinforcements and additional reservoir storage will be required to accommodate a fully occupied scenario and additional future development areas.
- Establishing new wastewater treatment plants and waterborne sewer networks in the towns of Aurora, Goedverwacht, Redelinghuys and Wittewater.
- Extending the waterborne sewer networks in the towns of Dwarskersbos, Eendekuil and Velddrif in order to replace all septic tanks.
- Sewer network reinforcements will be required to accommodate a fully occupied scenario and additional future development areas.
- Absorption of embedded generation has to be addressed through policy and guidelines
- Feeders should have redundancy through addition of closed ring feeds through the 11kV distribution network.
- The 11kV overhead line feeder configuration and sizing should be upgraded in Porterville, in particular the Monte Bertha feeder.

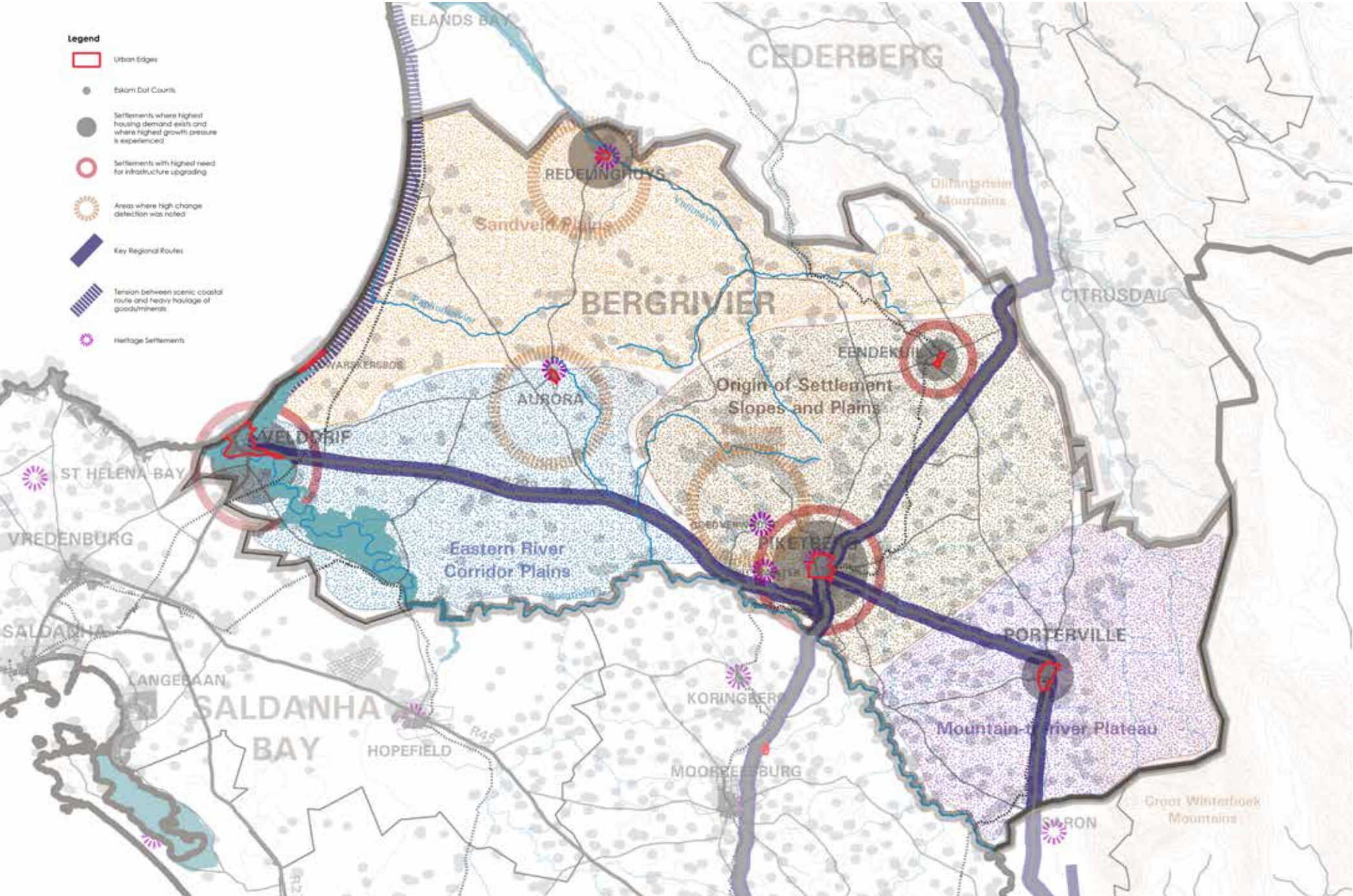


Figure 54. Built Environment Synthesis

3.4. Summary of Key Spatial Trends and Informants

The following table sets out a synthesis and summary of key spatial trends and informants. These issues are of importance in providing a platform for the formulation of a final longer-term spatial concept and related spatial proposals at the municipal scale as well as at the scale of the individual settlements/focus areas in Bergrivier.

	PAST TRENDS TO REDRESS <i>These issues relate to past practices and are flagged as requiring incorporation into proposals to formulate a more sustainable, efficient and resilient spatial development framework for future land development and land use activities in general.</i>	CURRENT CHALLENGES TO ADDRESS <i>Current challenges often relate to Legacy issues in so far as past practices continue to impact on the performance of the natural environment and the built environment in most cases still reflects the structuring elements that arose out of historical decisions on how to lay out towns and settlements and how to service these areas.</i>	FUTURE CHALLENGES TO MITIGATE <i>Future challenges are those issues which, it is projected, will become of importance and will have to be planned for ahead of time in order to develop appropriate responses and management approaches to dealing with their consequences.</i>
biophysical	<ul style="list-style-type: none"> Historical over-use of water resources – particularly groundwater resources in certain areas Past land use practices that negatively impacted upon biodiversity and sensitive habitats thus compromising climate change resilience Built forms and infrastructure development that negatively impacted upon cultural and heritage landscape assets 	<ul style="list-style-type: none"> Continued pressure on the natural resource base through intensive use of groundwater resources and unsustainable land use practises The need to secure Critical Biodiversity Areas (CBAs), Ecological Support Areas (ESAs) and Regional Climate Change Corridors as informed by the Western Cape Biodiversity Spatial Plan 	<ul style="list-style-type: none"> The impact of Climate Change on the natural environment and its ability to provide resilience against severe weather events The impact of Climate Change on the natural resource base and the possible spatial shift in productive footprints for certain commodities The impact on the coastline and coastal settlements of changes in sea levels
socio-economic	<ul style="list-style-type: none"> Segregation of racial groups and differential access to land and resources Differential levels of access to education and quality social services that entrenched different levels of social capital Marginalization of rural communities and impact on skills and opportunities Statutory limitations on asset formation and related restricted ability of historically racially defined communities to accumulate assets, including land 	<ul style="list-style-type: none"> High levels of poverty, particularly in rural areas such as Wards 1, 5 and 6 Economic performance of the key towns of Piketberg, Velddrif/Laaipek and Porterville Impact of drought on primary sector and its effects on the secondary and tertiary sectors of the economy as well as job losses in the agricultural sector 	<ul style="list-style-type: none"> Facilitating positive responses to fourth industrial revolution by ensuring ongoing good cooperative governance and administration Implementing AgriSmart strategies to ensure the continued efficiency and viability of the agricultural sector Developing a skills development strategy to address the changing nature of work and jobs in the primary, secondary and tertiary sectors of the economy
built environment	<ul style="list-style-type: none"> Segregation resulting in fragmented and inefficient settlement patterns, particularly in urban areas Differential levels of investment in infrastructure and social facilities leading to inequitable levels of access to services and related opportunities for different communities Spatial patterns of development that imposed significant costs on communities without access to higher order goods and services and/or private means of transport 	<ul style="list-style-type: none"> The reported need in certain cases to expand settlement footprints/urban edges to accommodate new housing development areas Manage density and form of new urban developments to promote SPLUMA/LUPA Principles and integration of spatial form (sustainability and efficiency of settlements) Balance need for spatial development with need to manage and maintain the operational integrity of the main transportation networks and key routes Managing investment in the key infrastructure networks to ensure adequate capacity to meet the demands of new developments 	<ul style="list-style-type: none"> Transforming spaces and integrating urban settlements Managing sustainable (green) infrastructure and smart technologies for efficiencies Managing increased demand for housing in an appropriate manner to promote urban efficiency which provides a regulatory framework including guiding better development and management of the coastal zone, for example by providing for: Controlling inappropriate development and other adverse effects, including pollution Maintaining the natural attributes of coastal landscapes and seascapes

3.5. Synthesis: Spatial Implications of Identified Threats and Opportunities

The following tables set out a synthesised assessment of key Threats and Opportunities with spatial implications, drawn from the preceding chapters.

Table 14. External Threats

Threat	Spatial Implications
Biophysical	
Increasing rainfall variability and 2015-2018 drought associated with climate change poses serious threats as Bergrivier is underpinned by an agricultural economy and the municipality acting independently has limited influence to mitigate against or adapt to climate change.	Address climate change pressures to diversify and adapt to changing market conditions, extreme climatic conditions and increasing food security concerns. Reduce climate vulnerability and improve landscape resilience by developing a 'green' economy and by taking advantage of the economic opportunities arising out of climate change, particularly around water supply. Support opportunities for payment for water supply and habitat restoration.
Socio-Economic	
Compounding the impact of the drought is the recessionary economic climate in South Africa that impacts negatively on investor and consumer confidence.	Emphasis needs to be placed on extending strategies (including Smart- Agri, Working for Water, Green Infrastructure programmes and others) to secure the resilience of the Bergrivier economy against the impacts of water shortages and other external economic forces.
Entrenched rural poverty and vulnerability due to joblessness, homelessness, tenure and food insecurity.	Given the importance of the rural economy and established urban-rural linkages, the SDF needs to pursue strategies that promote land reform and improved access to natural resources, strengthen rural enterprises, and open up new opportunities for rural enterprises.
Built Environment	
Apartheid's spatial legacy is entrenched, its impact on living conditions endures, and there are no short-term solutions to redressing the structure and form of human settlements.	Notwithstanding enduring spatial legacy impacts, the SDF needs to chart a new way forward based on the SPLUMA principles of spatial justice, efficiency and sustainability. Continuing with historical settlement patterns will not give rise to changed spatial outcomes, a bold new approach is needed to encourage the development over time of integrated spatial patterns of settlement and the consolidation of urban form.

Table 15. External Opportunities

Opportunity	Spatial Implications
Biophysical	
Unique biological diversity of the Cape Floral Kingdom provides a natural environment that supports a variety of livelihoods and economic activities, and attracts national and international visitors.	The SDF needs to safeguard the region's natural assets, ensure on-going ecological functionality, and promote sustainable land uses.
Socio-Economic	
Ongoing and increasing demand for agricultural products from growing South African population provides stability and resilience to Bergrivier's economy.	Safeguarding Bergrivier's agricultural assets emerges as a key theme the SDF needs to take forward.
Bergrivier forms the interface between the Greater Saldanha and south West Coast functional economic regions. The S West Coast region extends into the Drakenstein municipal area and also has linkages with the northern West Coast, as well as with Greater Saldanha and Greater Cape Town metro regions to the south.	Building on the territorial advantage of local municipalities, there is a case for a shared strategic approach to unlock the regional economic development potential.
Strategic Infrastructure Project 5 (SIP 5) for the development of the Saldanha Bay— Northern Cape corridor through rail and port expansion, increasing back-of-port industrial capacity by the development of the SBIDZ for minerals beneficiation and servicing the maritime oil and gas industry. Straddling the N7, the Bergrivier municipal area forms the northern gateway to the SBIDZ.	Velddrif, in relative close proximity and offering an attractive living environment, will be directly impacted by development of the SBIDZ. Piketberg and to a lesser extent Porterville, on freight routes to and from the SBIDZ, will be indirectly impacted
Operation Phakisa has four components, all of which have relevance to the West Coast's spatial agenda, namely Marine transportation and manufacturing; Offshore oil and gas; Fisheries and aquaculture; and Marine protection services	Velddrif stands to be a direct beneficiary of this initiative, and the balance of Bergrivier's space-economy an indirect beneficiary.
In terms of the government's Agri-Park programme, Piketberg has been identified as a Farmer Production Support Unit (FPSU)	Piketberg's role as regional centre will be reinforced
Built Environment	
Shift towards more compact living and sustainable lifestyles	Bergrivier has attractive value offering and is likely to benefit from this trend
Technological advancement disrupting economy and education	Capitalize on remote working and learning prospects

Table 16. Local strengths

Strength	Spatial Implications
Biophysical	
Berg River estuary is one of the most valuable biodiversity assets in the Municipality, ranked third highest conservation importance in RSA	Current protection is limited to the broad parameters of national legislation and SDF guidelines. SDF needs to delineate all areas at risk of high energy coastal and river flooding
Diverse scenic, natural and cultural landscapes underpin Bergrivier's attraction as tourism destination.	SDF to safeguard unique west coast environmental features, sense of place and cultural heritage by involving all communities. Enhance Bergrivier as a unique destination for visitors and tourists with unrivalled eco-tourism and authentic cultural heritage opportunities
Socio-Economic	
Bergrivier Municipality's territorial economic advantage stems from its strategic location along the N7 north-south freight route, on east-west freight routes between West Coast and the N1, and R27 coastal tourism route. Its competitive advantage also stems from its marine, coastal and agricultural natural assets. These underpin a strong agricultural, agri-processing industries, tourism, and freight and logistics services sectors.	SDF needs to capitalize on Bergrivier's strategic location in the region, safeguard the natural assets underpinning the local economy, and open-up access to economic opportunities.
Bergrivier had an unemployment rate of 5.4 % in 2015, the lowest in the District.	Notwithstanding the relatively low unemployment rate, up-skilling of agri workers needed for new economy.
Built Environment	
Walkable urban living environments, low levels of informality	SDF to enhance walkable neighbourhoods and dignified living
Rural settlements of Goedverwacht, Genadenberg and Wittewater belong to the Moravian Church, where it provides access to residential sites and food gardens as well as larger lands for cultivation (wheat) and livestock (sheep) farming.	These areas are potential sites for collaborative developmental and governance arrangements. In 1996 the Moravian Church and the-then Department of Land Affairs signed the Genadendal Accord, which committed the parties to work together towards achieving land tenure reform and security. The SDF should build on this accord.
Unique heritage resources of Bergrivier are noteworthy for their role in the evolution of the West Coast's fishing industry, transportation of goods, cultivation patterns and the establishment of mission stations.	SDF to safeguard and enhance heritage assets to benefit of local communities.

Table 17. Local Weaknesses

Weakness	Spatial Implications
Biophysical	
Very little of the biodiversity of the Bergrivier Municipality is conserved in formal Protected Areas. Impacts of expanding agri and urban footprints on biodiversity and ecosystem services.	SDF to expand the "conservation estate" outside formal Protected Areas, including Stewardship programme, targeting key representative habitats and landscape connectivity.
High levels of landscape transformation, especially in lowlands	Designate remaining natural lowlands as Critical Biodiversity Areas, essential for biodiversity and ecosystem functionality.
Sandy coastline and estuarine environment subject to highly dynamic coastal processes of erosion and deposition.	Evidence based coastal and estuarine management lines (i.e. setbacks) need to be applied in the update of the SDF.
Agricultural potential in a water-scarce area (as Bergrivier is) is directly linked to available irrigation water	Farming enterprises and practices need to transform in response to climate change and resource/landscape/ habitat vulnerability
Socio-Economic	
Up-skilling workforce limited by the local absence of tertiary (or technical) education	SDF to identify suitable locations for tertiary facilities and/or use of technology for remote learning
Many economic activities in the towns reliant on rural consumers, with local urban residential population thresholds being low.	Rural-urban linkages are a particular feature of Bergrivier, which needs to be further explored in the Municipal SDF process.
Built Environment	
Scarcity of suitable land for housing and the high cost of bulk and service infrastructure.	SDF to reconcile housing demand, priority development areas, housing typologies and infrastructure capacities.
The legacy of the apartheid's separate development characterises the pattern of land use in towns	SDF to identify opportunities for the spatial transformation and integration of fragmented and low-density urban areas/neighbourhoods
Low population densities makes public transport services inefficient and not cost effective. No bus services in the towns of Bergrivier	SDF to promote strategic densification of towns, especially along transit routes and promote NMT
Inappropriate suburban and affordable housing extensions – especially in the context of historic towns and villages	SDF to provide guidance to decision makers on appropriate location and form of new housing areas. SDF to address how Zoning Scheme can promote desired land use patterns

4.

Municipal Spatial Proposals



4. Municipal Spatial Proposals

4.1. Development Principles

The Bergrivier Municipal SDF is underpinned by SPLUMA's Development Principles, which have been applied as set out in the following tables.

Table 18: Composite SPLUMA/LUPA Development/Land Use Planning Principles - Spatial Justice and Resilience

Development Principle	Elements of the Principle	Application in the MSDF
Spatial Justice	<ul style="list-style-type: none"> past spatial and other development imbalances should be redressed through improved access to, and utilisation of, land spatial development frameworks and policy at all spheres of government should address the inclusion of persons and areas that were previously excluded, with an emphasis on informal settlements and areas characterised by widespread poverty and deprivation spatial planning mechanisms, including zoning schemes, should incorporate provisions that enable redress in access to land by disadvantaged communities and persons land use management systems should include all areas of a municipality and specifically include provisions that are flexible and appropriate for the management of disadvantaged areas and informal settlements land development procedures must include provisions that accommodate access to, and facilitation of, security of tenure and the incremental upgrading of informal areas a competent authority contemplated in this Act or other relevant authority considering an application before it, may not be impeded or restricted in the exercise of its discretion solely on the ground that the value of land or property will be affected by the outcome of the application the right of owners to develop land in accordance with current use rights should be recognised 	<p>➤ Directs the MSDF process to seek spatial planning and land use management solutions that effectively promote redress of circumstances that were caused by past politically-based policies, which resulted in inequitable and fragmented spatial arrangements in urban and rural settlement layout designs as well as unequal levels of access to land and associated resources.</p> <p>➤ Highlights the need to identify opportunities where the spatial configuration of settlements and/or land holdings may be transformed by the development of strategically located land to promote the integration of settlements and better located opportunities for the socio-economic upliftment of disadvantaged communities.</p> <p>Strategic Imperative: <i>Seek spatial integration opportunities</i></p> <p>Priority Spatial Focus Areas:</p> <ol style="list-style-type: none"> 1. Piketberg 2. Velddrif/Laaipek 3. Porterville 4. Eendekuil
Spatial Resilience	<ul style="list-style-type: none"> whereby flexibility in spatial plans, policy and land use management systems is accommodated to ensure sustainable livelihoods in communities most likely to suffer the impact of economic and environmental shocks 	<p>➤ Emphasises the need to be more aware of the challenges of unforeseen and potentially extreme events and to plan accordingly</p> <p>➤ Highlights the need to allow for flexibility in urban design and urban management and to acknowledge the need for adaptability when facing unforeseen challenges in order to recover to a state of equilibrium</p> <p>Strategic Imperative: <i>Adaptability to accommodate spatial planning and land use management changes necessitated by Climate Change and economic trends</i></p> <p>Priority Spatial Focus Areas:</p> <ol style="list-style-type: none"> 1. Velddrif/Laaipek 2. Coastal Zone 3. Agricultural land areas

Table 19. Composite SPLUMA/LUPA Development/Land Use Planning Principles - Efficiency and Good Administration

Development Principle	Elements of the Principle	Application in the MSDF
Efficiency	<ul style="list-style-type: none"> land development should optimise the use of existing resources, infrastructure, agriculture, land, minerals and facilities integrated cities and towns should be developed, whereby <ul style="list-style-type: none"> the social, economic, institutional and physical aspects of land development is integrated; land development in rural and urban areas in support of each other is promoted; the availability of residential and employment opportunities in close proximity to, or integrated with, each other is promoted; a diverse combination of land uses is promoted; the phenomenon of urban sprawl in urban areas is discouraged and the development of more compact towns and cities with denser habitation is promoted; historically distorted spatial patterns of settlement are corrected; and the quality and functionality of the public spatial environment is promoted; and policy, administrative practice and legislation should promote speedy land development. 	<p>➤ Promotes compaction of settlements and the avoidance wherever possible of extending settlement footprints and associated services infrastructure networks</p> <p>➤ Also addresses the need to strengthen the positive and reciprocal relationships between urban settlements and rural hinterland areas – focus on what the town can do for the countryside and how the assets and livelihoods offered in the countryside hold benefits for the towns</p> <p>➤ Places focus on urban design interventions to promote mixed land uses in appropriate localities as well as improve the quality of public spaces</p> <p>➤ Introduces the need for efficiency in handling administrative processes to facilitate land development</p> <p>Strategic Imperative:</p> <p><i>Spatial arrangements to promote efficient use of resources and infrastructure networks</i></p> <p>Priority Spatial Focus Areas:</p> <ol style="list-style-type: none"> Piketberg Velddrif/Laaipek Porterville
Good Administration	<ul style="list-style-type: none"> all spheres of government should ensure an integrated approach to land use planning all government departments must provide their sector inputs and comply with any other statutory requirements during the preparation or amendment of spatial development frameworks the requirements of any law relating to land development and land use must be met timeously the preparation and amendment of spatial plans, policy, zoning schemes and procedures for land development and land use applications, should include transparent processes of public participation that afford all parties the opportunity to provide inputs on matters affecting them legislation, procedures and administrative practice relating to land development should be clear, promote predictability, trust and acceptance in order to inform and empower members of the public a spatial development framework, zoning scheme or policy should be developed in phases and each phase in the development thereof should include consultation with the public and relevant organs of state and should be endorsed by the relevant competent authority decision-making procedures should be designed to minimise negative financial, social, economic or environmental impacts development application procedures should be efficient and streamlined and timeframes should be adhered to by all parties decision-making in all spheres of government should be guided by and give effect to statutory land use planning systems 	<p>➤ Directs that spatial planning and land use management are key activities to be underpinned by cooperative governance arrangements;</p> <p>➤ Again, emphasises the importance of speedy administrative processes in dealing with land development;</p> <p>Strategic Imperative:</p> <p><i>Integration of effort in ensuring a multi-lateral governance approach to spatial planning and land use management</i></p> <p>Priority Spatial Focus Areas:</p> <ol style="list-style-type: none"> All Areas

Table 20. Composite SPLUMA/LUPA Development/Land Use Planning Principles - Spatial Sustainability

Development Principle	Elements of the Principle	Application in the MSDF
Spatial Sustainability	<ul style="list-style-type: none"> • promote land development that is spatially compact, resource-frugal and within the fiscal, institutional and administrative means of the relevant competent authority in terms of this Act or other relevant authority • ensure that special consideration is given to the protection of prime, unique and high potential agricultural land • uphold consistency of land use measures in accordance with environmental management instruments • promote and stimulate the effective and equitable functioning of land markets • consider all current and future costs to all parties for the provision of infrastructure and social services in land developments • promote land development in locations that are sustainable and limit urban sprawl, result in communities that are viable; and strive to ensure that the basic needs of all citizens are met in an affordable way • the sustained protection of the environment should be ensured by having regard to the following: <ul style="list-style-type: none"> - natural habitat, ecological corridors and areas with high biodiversity importance - the provincial heritage and tourism resources - areas unsuitable for development, including flood plains, steep slopes, wetlands and areas with a high water table and landscapes and natural features of cultural significance - the economic potential of the relevant area or region • climate change adaptation and climate change mitigation strategies should be developed and considered in land use planning • the provision and conservation of, and the management of the demand for, energy should be considered in land use planning • the safe utilisation of land should be ensured by taking into consideration factors such as sea-level rise, storm surges, flooding, fire hazards and geological formations • the illegal occupation of land should be discouraged with due recognition of informal land development practices • development should be principle-driven and should prioritise long-term social, economic and environmental benefits over short-term benefits 	<p>➤ Places emphasis on balancing land development and market-driven initiatives against the imperative to conserve the natural resource base (ecological infrastructure) and to manage resource usage in a sustainable manner;</p> <p>➤ Highlights the need to ensure that the provision of infrastructure and social facilities – including the post-development maintenance thereof – is adequately planned for;</p> <p>➤ Again, emphasises the importance of consolidating settlement footprints and promoting spatial integration;</p> <p>➤ Directs that spatial planning and land use management must recognise the reality of Climate Change and must also take into account the risks associated with sea level rises and other extreme events;</p> <p>➤ Directs that spatial planning strategies should prioritise long-term sustainable solutions rather than short-term market-driven initiatives;</p> <p>Strategic Imperative:</p> <p>Embed the concept of Evidence-Based Wise Land Use</p> <p>Priority Spatial Focus Areas:</p> <ol style="list-style-type: none"> 1. All settlements 2. Coastal Zone 3. Agricultural land areas

4.2. Municipal Vision and Spatial Concept

Underpinned by these SPLUMA's Development Principles, the MSDF focuses on the spatial implications of Bergrivier's Vision as set-out in its IDP. The spatial concept aspired to over the next 20 years is presented on the following page. The MSDF gives attention to six conceptual focus areas that structure spatial proposals to respond systematically to the challenges and opportunities for spatial development in the Bergrivier municipal area.

Certain of the focus areas respond to specific issues and others respond to broader challenges and opportunities. Overall, there is a cross-cutting dimension to these approaches that speak to the basic imperatives of achieving spatial patterns of land development and conservation/protection that serve to address the following fundamental needs over time:

- For the communities of Bergrivier broadly to find common ground and embrace a common destiny, within settlement patterns that promote such an outcome; and
- That all land use and land development should respect the common good of all people in society and, as such, respect and preserve and conserve scarce natural, cultural and heritage resources in the rural and urban settings of the municipal area.

4.2.1. Municipal Strategic Focus Areas

1: BUILDING RESILIENCE

Recognising that biodiversity, ecological infrastructure and ecosystem services underpin Bergrivier's economy, the MSDF pursues mitigation and rehabilitation strategies in relation to stressed and degraded habitats, and promotes job creation in the green economy. To build environmental and economic resilience in Bergrivier the MSDF proposes:

- Rehabilitating and maintaining ecological infrastructure
- Securing Critical Biodiversity Areas and Ecological Support Areas
- Applying development setbacks in coastal, estuarine and riverine areas
- Connecting landscape level climate change adaptation (ecological) corridors
- Mainstreaming agri-smart farming practices
- Applying water-wise and energy-smart urban design and infrastructure delivery systems
- Diversifying rural economic activities without compromising agricultural productivity

2: STRENGTHENING RURAL-URBAN LINKAGES

Recognising the importance in Bergrivier of prevailing rural-urban co-dependencies and the importance of linkages between the towns and their rural hinterland areas, the MSDF strengthens urban-rural linkages in collaboration with affected communities in order to explore if, how and where improvements can be made. Linkages also extend to exploring opportunities in developing networks of routes and logistics hubs in the Greater Cape Metro regional space-economy, including linkages to Langebaanweg Airfield and the Port of Saldanha. To strengthen rural-urban linkages the MSDF proposes:

- Safeguarding Bergrivier's natural and cultural assets that underpin its rural and urban economies
- Co- developing tourism routes with neighbouring municipalities
- Facilitating development of public transport and NMT routes within and between towns
- Accommodating farm workers in urban housing programmes

3: PROMOTING SPATIAL TRANSFORMATION

Recognising the need to build sustainable and integrated communities, the MSDF works to mobilise urban communities to spatially re-configure their towns function over time to create improved efficiencies, sustainability of the urban form and related infrastructure and transport networks as well as to achieve the fundamental principle of Spatial Justice. In promotion of spatial transformation the MSDF proposes:

- Prioritising development of strategically located urban land (i.e. close to opportunities)
- Incorporating a range of housing typologies in development of strategic land parcels
- Upgrading NMT and security along principal routes linking townships with urban activity nodes
- Promoting densification and mixed land uses along principal routes and around activity nodes
- Curtailing urban sprawl and promote compact urban development

4: EXCELLENCE IN SERVICE DELIVERY

Recognising the need to enhance and extend the service functions of the towns and settlements in Bergrivier, the MSDF places particular focus on the unique service functions of each town and settlement in order to identify opportunities for the development of higher-order service facilities (e.g. excellent education institutions; sub-regional and possibly even regional-scale facilities for sports and recreation etc.). To improve service delivery the MSDF proposes:

- Reinforcing the performance of existing rural service centres
- Concentrating higher order facilities in the main towns (i.e. Piketberg, Porterville & Velddrif)
- Promoting densification and mixed-use to optimize use of existing infrastructure and facilities

Bergrivier 2040: Spatial Aspirations

The IDP VISION

"Bergrivier: a prosperous community where all want to a live, work, learn and play in a dignified manner"

Whilst its local economy remains rooted in the agricultural sector, the impact of climate change and the need to **manage fragile biophysical resources** has meant that farmers in Bergrivier have responded by adopting a range of **"Smart-Agri" strategies** to lessen the impact of transformative farming practices on the ecological infrastructure of the area, and have maintained levels of production whilst bolstering resilience to further impacts.

Sustainable technologies are widely applied in the built environment and a focus has been placed on **improving levels of accessibility** within the urban settlements by further developing NMT routes to complement the **progressive restructuring** of the towns' layouts.

The Bergrivier area's urban settlements have developed progressively in ways that have led to more **consolidated urban footprints**, an increase in densities and a more intense mix of land uses at strategic localities, thus offering **more integrated and sustainable living environments** for their residents.

Piketberg, on the N7 Cape Town - Namibia corridor functions as the **northern regional gateway**, linking Namibian, Northern Cape and northern West Coast markets to the Greater Saldanha and Greater Cape Metropolitan regions. It has a resilient local economy based on agri-processing, logistics, commerce and the provision of high quality community and social services to its residents and visitors.

Responding to increased growth and development in the Saldanha Bay/Vredenburg Regional Economic Hub, **Velddrif/Laaiplek** has become a **coastal town of choice** for both commuting residents, local entrepreneurs, and local and overseas tourists.

In responding to the changes brought about by climate change and a dynamic coastline, **Dwarskersbos** has managed to secure the integrity of all properties in risk-prone areas and has consolidated its status as a **unique satellite settlement** to Velddrif/Laaiplek with a stable urban footprint, maintained in recognition of the sensitivity of the surrounding coastal zone and conservation-worthy land areas.

Building on its growing importance as a regional hub for east-west-bound road traffic as well as its well-established reputation as a base for local and overseas tourists to access a range of eco- and adventure tourism offerings, **Porterville** has developed into a **multifaceted small town with a unique sense of place**.

Regional Economic Centre

Coastal Town or Service Centre

Agricultural Rural Settlement

The Moravian Settlements of **Wittewater**, **Goedverwacht** and **Genadenberg** have successfully worked through a **community-led land reform process**. Residents enjoy security of tenure and are deeply involved in the management of their communities and their land. These areas have experienced **increased investment in infrastructure and social facilities as well as tourism and agricultural production** facilities, and comply with the provisions of legislation, including SPLUMA, LUPA, NEMA and the Bergrivier Municipal By-Law on Municipal Land Use Planning.

The smaller agricultural centres of **Aurora**, **Redelinghuys** and **Eendekuil** continue to function as **rural service centres** where focus has been placed on ensuring that communities residing in and around these towns can access a high quality of business support and community services. These towns have also capitalised on their unique settings and have developed **niche-offerings to the tourism market**.

5: TRANSITIONING TO SMART INFRASTRUCTURE

Recognising that water is a scarce commodity and that trends in electricity consumption indicate lessening reliance by consumers on bulk distribution networks and thus lower revenue streams for the Municipality, the MSDF strives for efficiency in developing and maintaining key infrastructure networks. The MSDF investigates opportunities in developing Business Cases for the progressive re- conceptualisation of key infrastructure networks (moving towards the development of so-called Sustainable Infrastructure) and the spatial implications of this.

The MSDF also recognises the advent of the so-called Fourth Industrial Revolution and the prospective spatial impacts of ICT network rollouts and the effects this may have on the way work is done – including exploring the opportunities to create attractive places and spaces for “knowledge workers”, entrepreneurs etc. (need to focus on quality of services and administration; develop improved linkages with key transportation nodes and so forth). To facilitate these transitions the MSDF proposes:

- Promoting municipal-wide extension of broadband coverage
- Applying off-grid technologies in rural areas, including smart-agri
- Introducing smart urban infrastructure networks to serve new development areas
- Replacing out-dated systems with smart technologies when maintenance costs prohibitive

6: OPENING-UP OPPORTUNITIES IN THE AGRICULTURAL & OCEAN ECONOMIES

Recognising that the agricultural sector is likely to remain of great importance to Bergrivier’s local economy and that there are development prospects in the ocean economy, the MSDF explores the potential of using partnerships to give impetus to land reform, new farmer development and entrepreneurial opportunities in the ocean economy. To these ends the MSDF proposes:

- Completing the processing and settlement of outstanding restitution claims
- Accelerating redistribution of productive farmland accompanied by farmer support programs
- Opening up opportunities for small farmer development in and around settlements
- Promoting Veldrif/Laaiplek as Bergrivier’s ocean economy hub

4.2.2. Scale of Applicability

As illustrated in the following diagram, five of these strategic focus areas of the MSDF apply at both municipal and local scales, whilst the theme of Spatial Transformation is largely focused on directing strategic approaches at the more localised, settlement scale.

4.3. Composite MSDF

Figure 59 presents the composite MSDF for the Bergrivier municipal area. The MSDF composite map presents the role and function of the settlement network, the municipal space-economy’s internal and external linkages, and desirable land uses delineated as Spatial Planning Categories. The compilation of the composite MSDF was based on and built up from the mapped core spatial elements/informants of (i) the biodiversity spatial mapping applicable to the Bergrivier municipal area as illustrated in Figure 55; (ii) the broad hierarchy of settlements as illustrated in Figure 58; (iii) the mapping of the key characteristics of the urban and rural space economies of Bergrivier in Figures 57 and 58; (iv) the main elements of the municipal-scale transportation network illustrating internal and external linkages as per Figure 58; and (v) the key spatial corridors and elements of the major bulk infrastructure networks as illustrated in Figure 56.

In configuring the composite MSDF spatial strategies were applied as set out in Table 21. Building on these broader strategies, Section 5 presents settlement specific proposals for each of the urban centres in the Bergrivier municipal area.

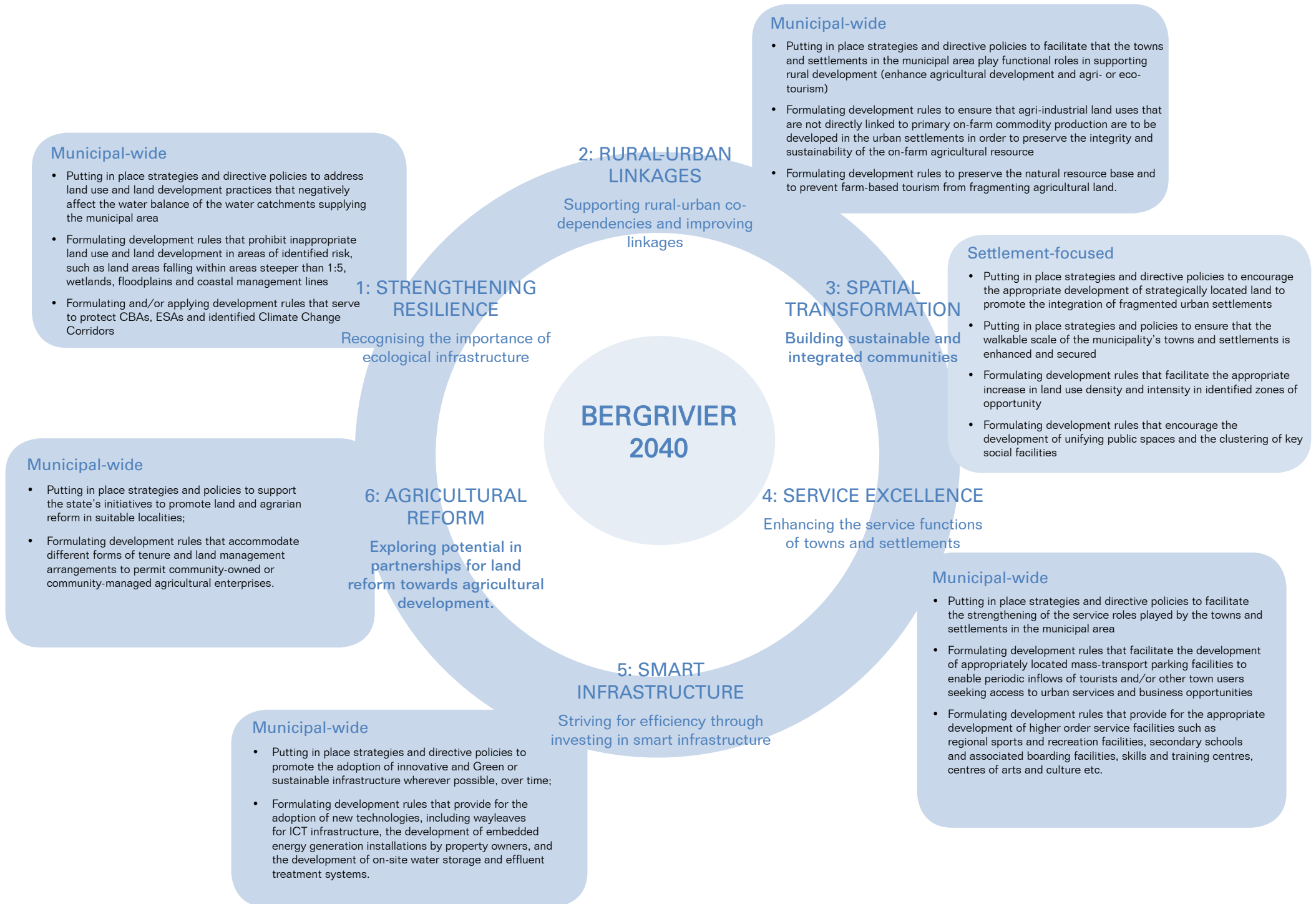


Table 21. Spatial components and the relevant spatial strategies of the municipal SDF

86	Spatial Components	Spatial Strategies	Maps
	Land Use and Conservation	<ul style="list-style-type: none"> • Coastal zone and estuary as special management areas • Land use managed consistent with parameters of Biodiversity Spatial Plan (i.e. SPCs) 	<ul style="list-style-type: none"> • Figure 55
	Linkages: Ecological	<ul style="list-style-type: none"> • Connected climate change adaptation & mitigation corridors to build resilience • Manage land uses compatible with CBAs and ESAs, rehabilitate degraded habitats • Ecological setbacks along coast, Berg River estuary and rivers 	<ul style="list-style-type: none"> • Figure 55
	Rural	<ul style="list-style-type: none"> • Further transformation of lowland natural areas curtailed • Safeguard productive farmlands, promote transition to smart agri and agrarian reform 	<ul style="list-style-type: none"> • Figure 55 • Figure 57
	Linkages: Tourism Routes and Hubs	<ul style="list-style-type: none"> • Inter-municipal West Coast tourism routes (Drakenstein, Cederberg, Swartland & Saldanha) • Heritage routes within towns 	<ul style="list-style-type: none"> • Figure 55 • Figure 58
	Linkages: Transport and Freight	<ul style="list-style-type: none"> • Designated N-S and E-W regional freight routes • Freight logistics hubs at Piketberg and Porterville 	<ul style="list-style-type: none"> • Figure 56 • Figure 58
	Overall: Space-economy	<ul style="list-style-type: none"> • Leverage economic opportunities in Bergrivier's main urban centres arising from municipality's strategic location along N7 and E-W freight routes to/from SBIDZ • Strengthen resilience of agriculture which underpins local economy • Promote development of urban and rural tourism assets 	<ul style="list-style-type: none"> • Figure 57 • Figure 58
	Urban: Role and Function of Towns	<ul style="list-style-type: none"> • Reinforce Piketberg, Porterville & Velddrif as municipality's primary growth and service centres • Improve efficiency of small towns as rural service centres • Municipal/church collaborative development and management of mission settlements 	<ul style="list-style-type: none"> • Figure 58

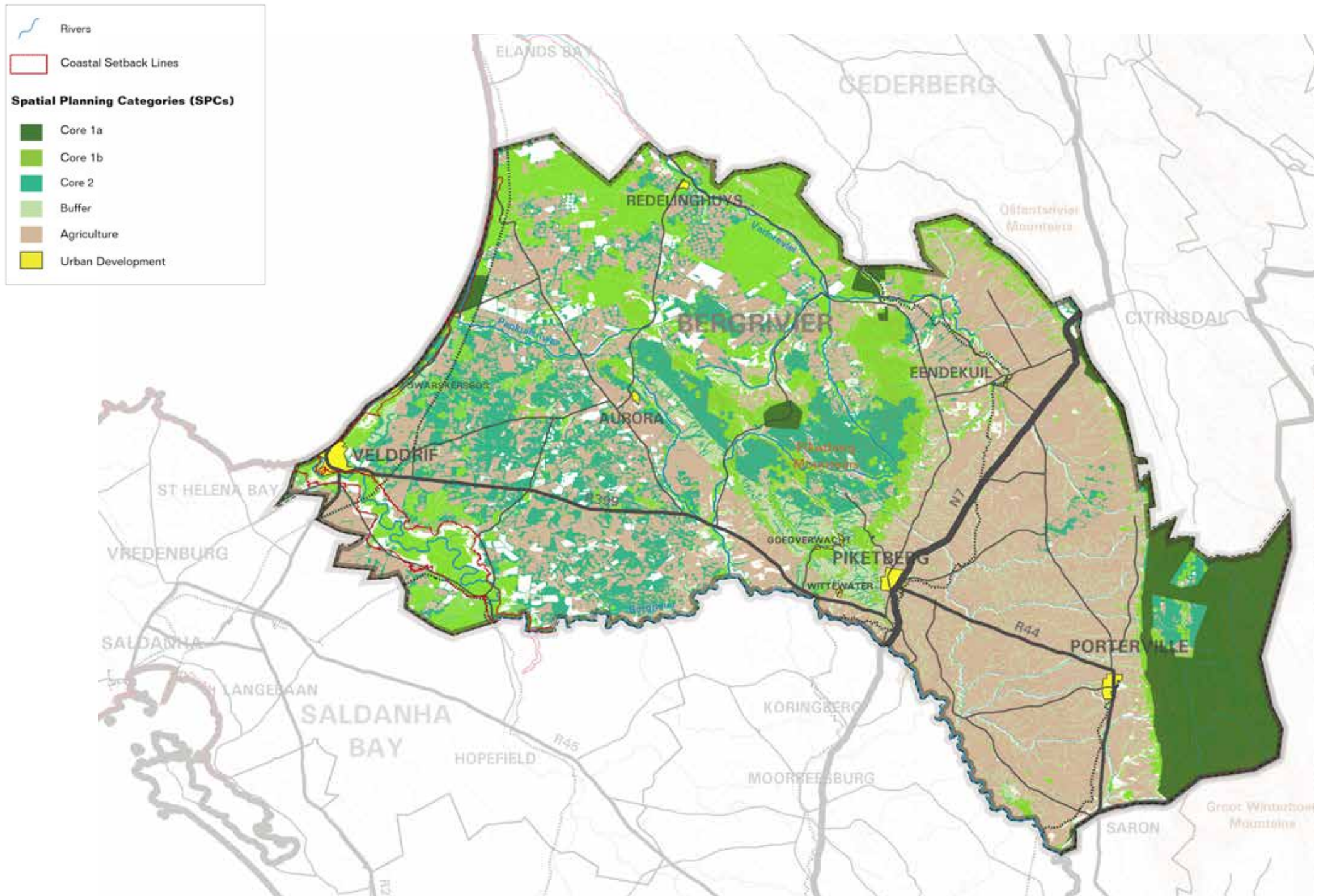


Figure 55. Municipal biodiversity networks and SPC management frameworks

MUNICIPAL INFRASTRUCTURE MANAGEMENT FRAMEWORK

88

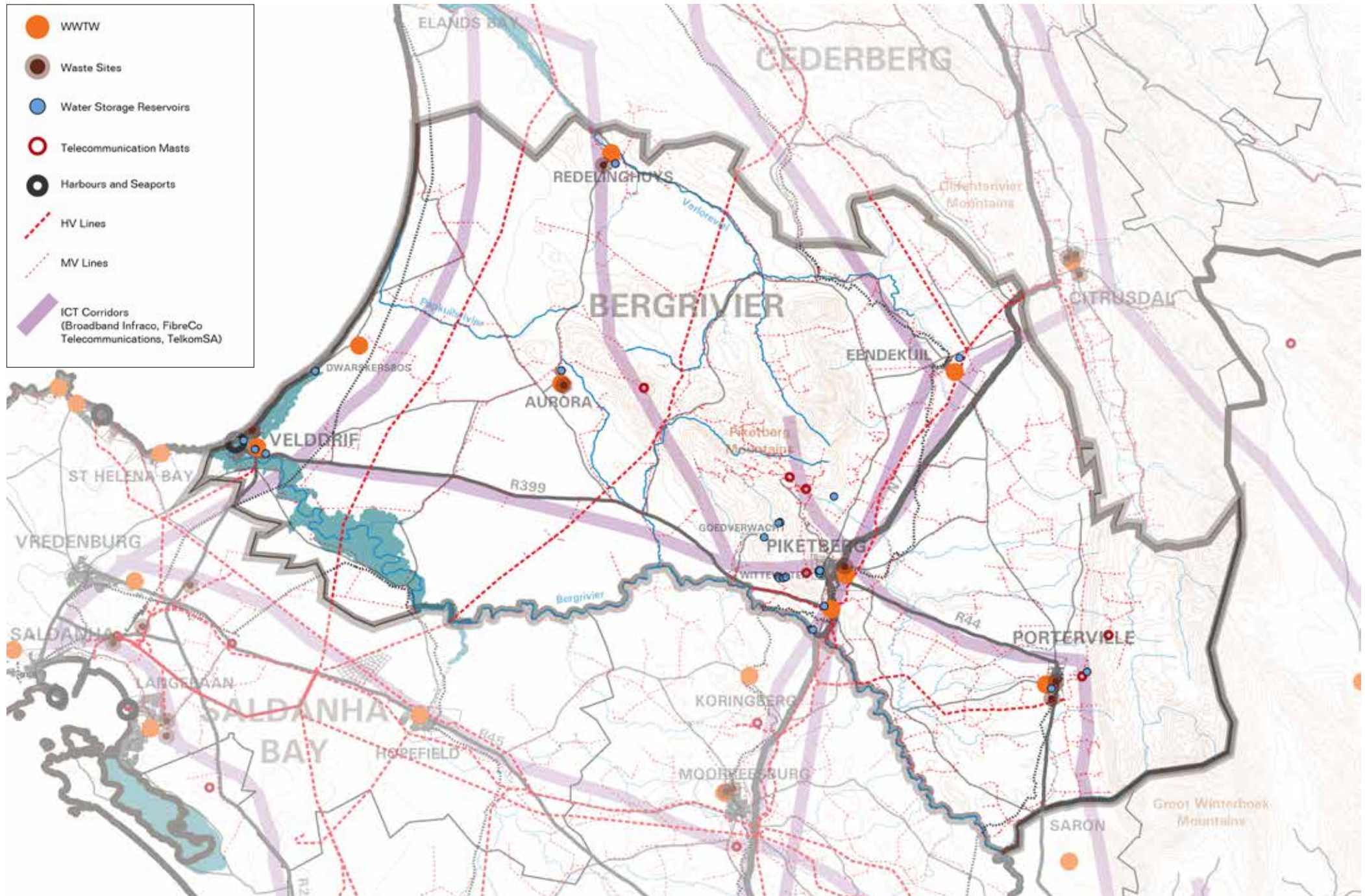


Figure 56. Key Municipal infrastructure networks

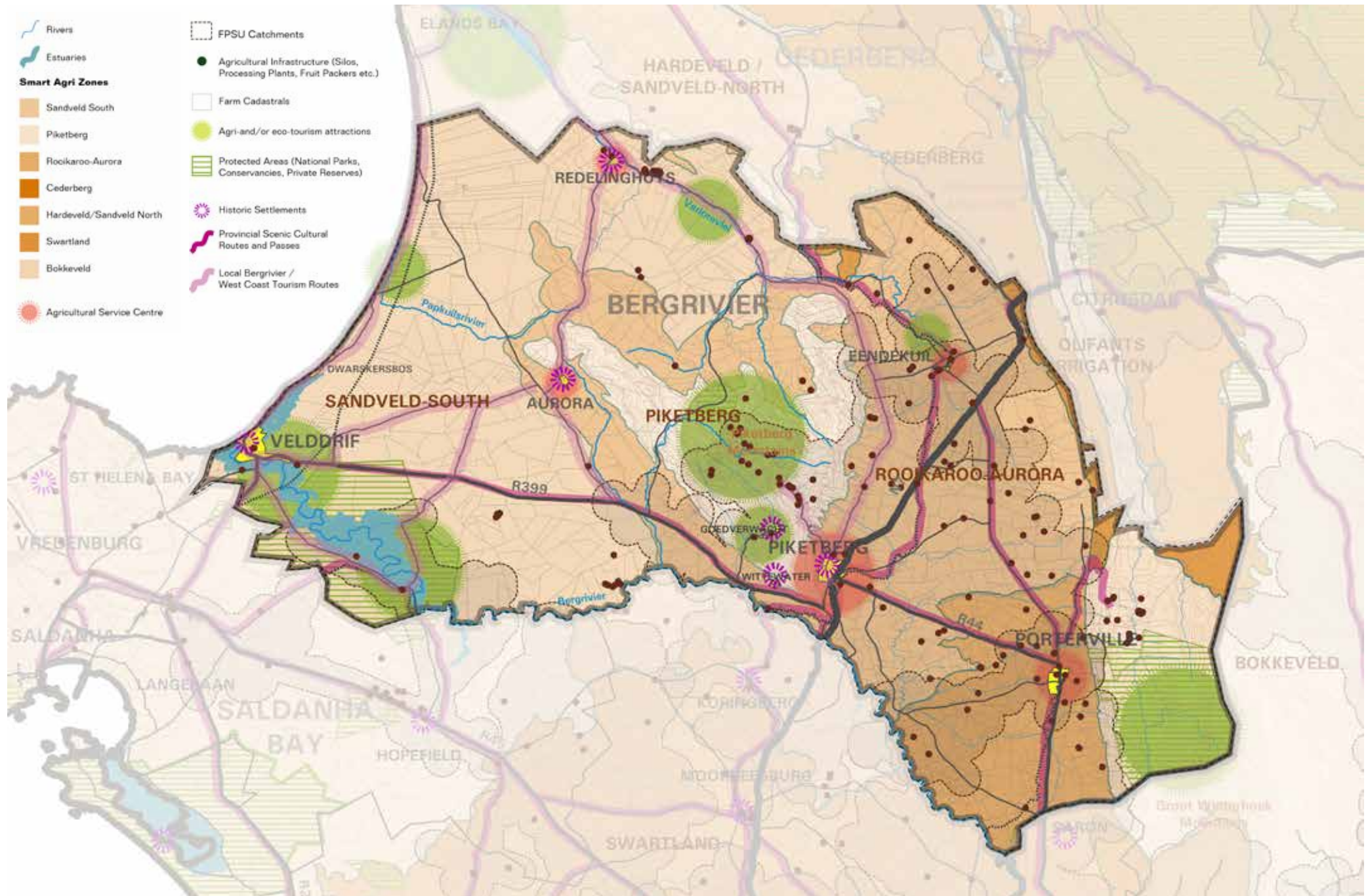


Figure 57. The rural space economy

MUNICIPAL SETTLEMENT AND ECONOMIC MANAGEMENT FRAMEWORK

90

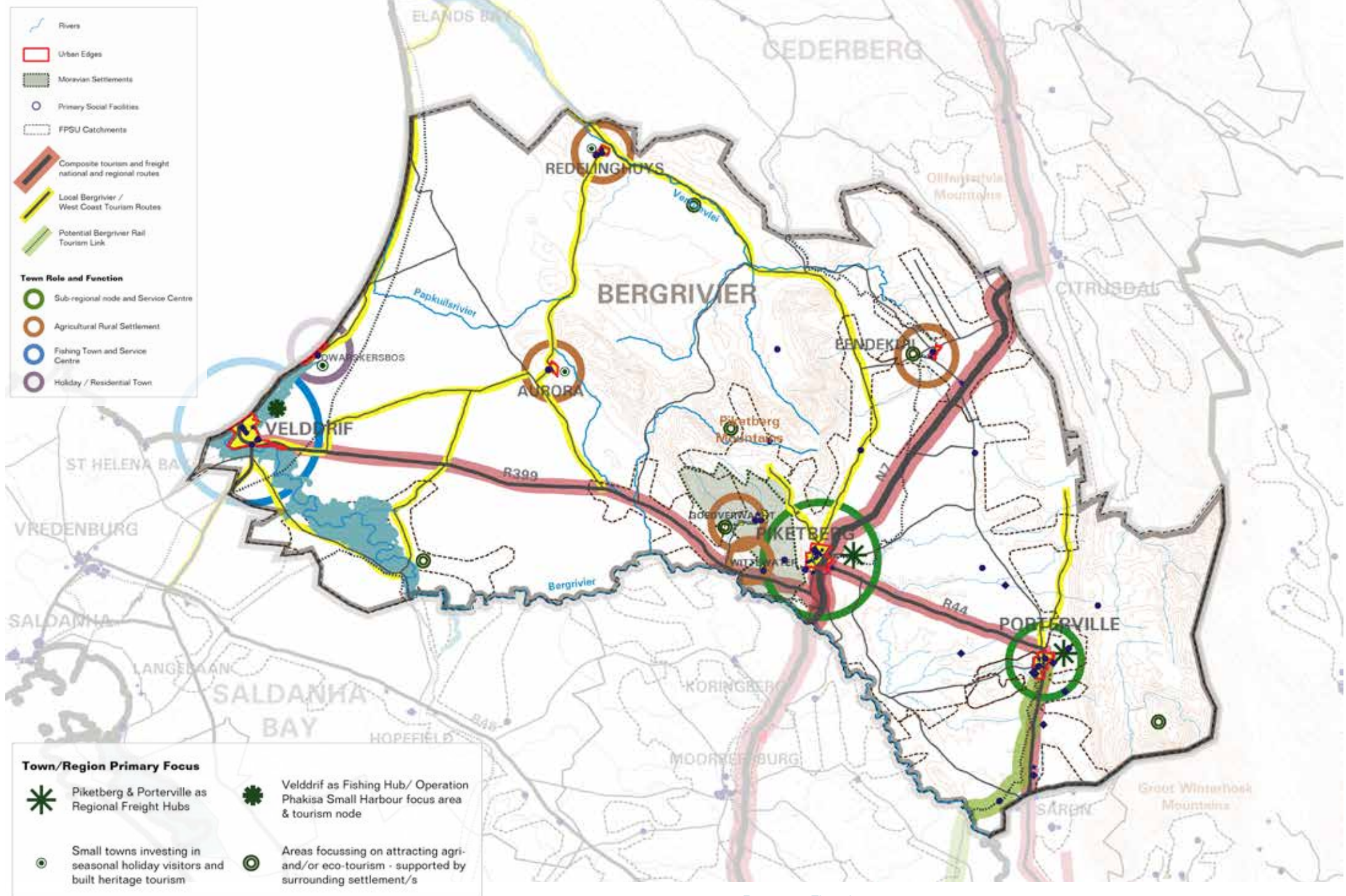


Figure 58. The urban space economy

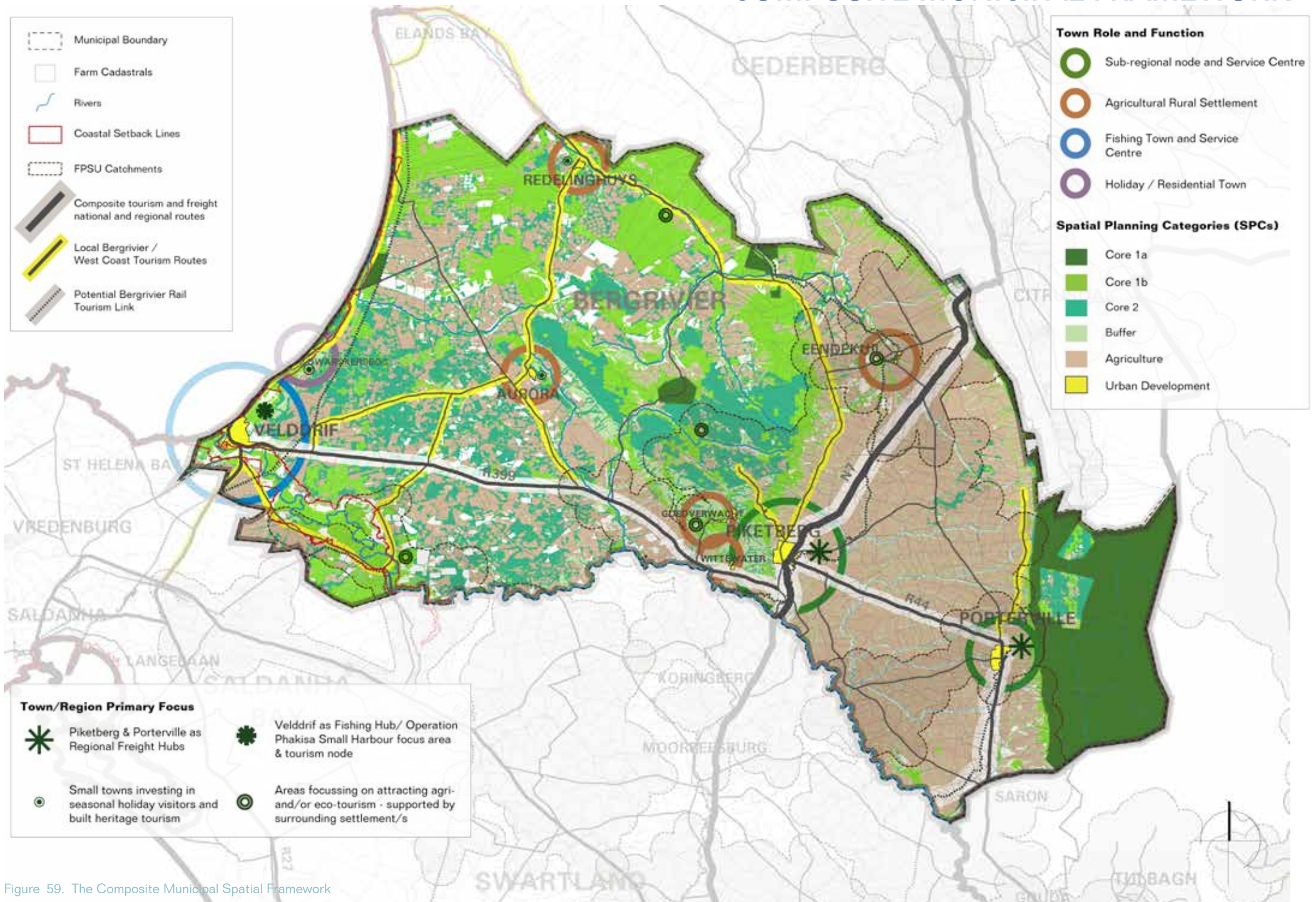


Figure 59. The Composite Municipal Spatial Framework

5.

Settlement Level Spatial Proposals



5. Settlement Level Spatial Proposals

This section addresses the formulation of appropriate spatial concepts and strategies for each of the seven formal towns in the Bergrivier Municipality.

Each town is analysed based on the key informants relating to the town's biophysical status, socio-economic trends and built environment performance. These informants are synthesised whereafter a spatial concept for the longer term vision for the town is developed and translated into key strategic responses relating to issues and opportunities of each settlement. Hereafter a spatial development framework for each town is illustrated which will guide future land use management and development prioritisation within each of the urban areas. The framework map and the associated strategic priority projects are unpacked, and in the following implementation chapter a capital expenditure framework is set out in relation to land budgeting for housing for each settlement.

These individual Spatial Development Frameworks form part of the overall Municipal SDF and, as such, are to be seen to have statutory application in the guiding of land development assessments.

Overall, the guiding strategies and policies aim to ensure that a uniform and consistent approach is maintained to managing land development in each town or settlement in order to comply with the requirements of consistent administrative justice and the requirements of SPLUMA and LUPA in respect of good administration.

Statement on Moravian Settlements

At the outset, it should be noted that this edition of the Bergrivier Municipal SDF does not contain specific spatial proposals in relation to the Moravian settlements of Wittewater, Goedverwacht and Genadenberg, as these land areas represent a complex circumstance whereby communities reside in rural settlements on land owned by the Moravian Church of South Africa, whose land holdings are managed, operated, administered and maintained by the its wholly owned company, MCiSA Holdings (Pty) Ltd.

Currently, administrative decisions within the settlement areas are overseen by local Overseers Committees made up of community representatives and the local, presiding church-appointed Minister. In terms of land tenure arrangements, the Church owns all the land but residents have ownership rights to their dwellings. It is understood that community members pay MCiSA fees in respect of services such as electricity and water, while rent is paid to the Overseers Committee in respect of agricultural land by community members who work the land.

The long-term concept put forward for the Moravian land areas is set out in the box below.

This concept is based on the understanding that there is an agreed-upon process to be followed in terms of an agreement, the Genadendal Accord, that was signed between the Moravian Church and the Department of Rural Development & Land Reform. It is advocated that a process of tenure reform be pursued in the Moravian settlements so as to clarify and settle issues related to residents' land rights and the institutional relationship between the communities, the Church, MCiSA and the Bergrivier Municipality in respect of service delivery and land use management procedures, given that, legally, all land in the Bergrivier area of jurisdiction is, in terms of SPLUMA, subject to the authority of the Municipality and thus also subject to the provisions of the Municipal By Law relating to Municipal Land Use Planning and the Bergrivier Land Use Scheme.

The Moravian Settlements of **Wittewater, Goedverwacht and Genadenberg** have successfully worked through a **community-led land reform process**. Residents enjoy security of tenure and are deeply involved in the management of their communities and their land. These areas have experienced **increased investment in infrastructure and social facilities as well as tourism and agricultural production** facilities, and comply with the provisions of legislation, including SPLUMA, LUPA, NEMA and the Bergrivier Municipal By-Law on Municipal Land Use Planning.

5.1. Piketberg

5.1.1. Status Quo Informants

Piketberg functions as a sub-regional node within the broader West Coast area and provides primary agricultural services to the surrounding farms and towns. It is the main town of the Bergrivier Municipality and is seen to have medium growth potential. The following sections will unpack the key informants relating to the town’s biophysical status, socio-economic trends and built environment performance.

5.1.1.1 Biophysical

The Piketberg mountain is a geological “island” of Table Mountain Sandstone in the sea of shale and acid sands that characterize this area of the Swartland. As the botanical complexity of the Cape Floristic Region is partly linked to the region’s varied geology, this leads to a high number (more than 20) of endemic plant species on the mountain. As a result of the ecological significance of the mountain, conservation agencies have focused on protection of the vegetation through various mechanisms including both business and biodiversity initiatives and establishing stewardship agreements with private landowners on the mountain.

Piketberg is situated in a biophysical area that is conducive to the farming of wheat, while the areas on top of the surrounding mountains are suited to the farming of fruit and Rooibos Tea. Because most areas of Renosterveld have been cleared for agricultural crops, all Graafwater Shale, Citrusdal Shale, Swartland Silcrete Shale and Swartland Shale Renosterveld patches are of conservation importance. Especially important areas include the Swartland Shale Renosterveld on the slopes of the Piketberg. Potential further encroachment towards the Piketberg Mountain into these remaining Critically Endangered habitats at the foothills should therefore be avoided.

Also due to its location at the foothills of the Piketberg Mountain, multiple small tributaries of the Pyls River system traverse the town. These small catchment areas with minor tributaries feeding into a stream in natural

habitat should therefore be carefully considered in the identification of future development parcels and in relation to urban and landscape design of these areas.

References: CapeNature (2010) The Biodiversity Sector Plan for the Saldanha Bay, Bergrivier, Cederberg and Matzikama Municipalities
Bergrivier SDF Environmental and Biodiversity inputs into urban edge and urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

5.1.1.2 Socio-Economic

Piketberg is the service and commercial centre of the surrounding agricultural area. It serves as the administrative seat of the Bergrivier municipality, with strong public sector activities such as the municipal head office, district offices for Education and StatsSA, provincial government offices, and other public functions.

In the town itself there has been a moderate shift in focus of the core business area to Lang Street which has placed certain retail business areas under pressure in the upper parts of town. The reliance of business activities in the town on surrounding rural areas creates additional vulnerability of the market as well as limited operating thresholds for higher order businesses such as Motor Vehicle Dealerships.

High poverty levels (33.8% according to the 2015 LED Strategy) impact on the socio-economic and wellbeing dynamics of the area. It also places a considerable pressure on municipal finances with a dependency on indigent grants. Skills limitations of the local labour force, in combination with agricultural work opportunities declining and the impact social pathologies related to alcohol and substance abuse, all add to these challenges for the area and further exacerbates social segregation between different income groups and communities.

Through the West Coast Business Development Centre, a SMME Forum was established in Piketberg - responsible for a continuous programme of small business training. According to a Business Climate Survey (2014) of the West Coast District, more than 60% of businesses were within the retail, wholesale trade, catering and accommodation sectors (MERO 2016 p38). The municipality also provides retail trading spaces at R100 per month amount with lease agreements running for a

Table 22. Piketberg overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	13 378
	POPULATION 2028 (EST. GROWTH @ 2.2%)	16 758
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	2 x Primary Schools 2 x Secondary Schools Skills Training Museum MOD
	ADEQUATE SUPPLY OF FACILITIES	Sport Facilities Libraries Community Day Centre
	PLANNED PROJECTS (WCG UAMPS)	Clinic Upgrade and Additions Radie Kotze Hospital Rehabilitation New Primary School
HOUSING	HOUSING WAITING LIST (under review)	1967 households
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2018/19 - 20 GAP 2021/22 - 20 GAP 2022/23 - 100 RDP Sites and Services 2023/24 - 100 RDP Top Structures

period of 12 months. The purpose of these facilities is to provide traders in the informal economic sector with the opportunity to trade in the central business zones. However, current challenges include the lack of funding, lack of capacity, as well as the lack of training. Improved transportation connectivity between West Coast areas and the Saldanha Bay IDZ would provide opportunity for SMME growth in the District.

Piketberg is strategically located along the N7 which is the primary tourism route towards the Cederberg and Namibia. The slow and peaceful lifestyle that the town and surrounding area offers, in addition to the incredible view from the town over the valley, all provides many tourism potentials for the socio-economic development of the town. However, a decline in the built fabric and the

lack of a coherent tourism strategy have led to the fact that these potentials have not yet been realised.

References: Bergrivier Municipality Local Economic Development Strategy May 2015

Bergrivier Municipality Fourth Generation IDP 2017 - 2022

5.1.1.3 Built Environment

Piketberg is an historic town, established in 1836, when farming land was given to the church. The church still stands – an imposing neo-gothic style cathedral with beautiful window patterns, plastered panels and interesting towers. It is a focal point in the town and some of the surrounding early cottages have been restored. The Piketberg Cultural Historical Museum opened in 1983 and is a great place to learn about the town's history and its involvement in the Anglo Boer War as well as the fascinating story of the Piketberg Jewish community. Piketberg Museum was awarded the “Best Museum in the Western Cape” in 2012/2013 by the Department of Cultural Affairs and Sport.

Several other noteworthy and protected buildings are situated in Piketberg. Character forming elements for Piketberg which have been identified as contributing towards its heritage significance are historical, architectural, aesthetic value (specifically the church precinct) and an important landscape setting. The Historic Piketberg Route has been established as a joint venture initiative between Piketberg Tourism and the Piketberg



Figure 60. Artist' impression of Piketberg 1857 (Unknown - Licensed under PD-SA via Wikipedia. Source: af.wikimedia.org)

Table 23. Noteworthy buildings in Piketberg (Rigby, 2018)

Building Description	Year
Dutch Reformed Church, Church St.	1880
Commercial two storied Victorian building in Church St. no. 5,	1906
Commercial hotel in Church St. two storied gabled building with verandah (catalogued elements transported by ox-wagon)	1898
Katzeff House, single story residence. Substantially altered during the Victorian era	1844
Police Station, classic gabled façade	1926
Sheriff's Office (Balju) corner gable, colonnaded verandah	1926
Old Bio (Bioscope) early 1920 gabled façade. Fire damaged	1920s
Piquet Hill and Coach House (converted wagon shed - 1920)	Original structure 1848. Divided into three dwellings in 1860
Piketberg Museum, Intact authentic Edwardian 1920s structure	1920s
Synagogue, similar to Malmesbury Synagogue. Owned by the Municipality and used as a museum (award winning)	1922
Mission Church - Intact structure built by non-white community members as a result of pressure for segregated worship	1908
Historical Graveyard - Many unmarked graves (some Jewish), soldiers from the Great War, 125 gravestones	1903
Dunns Castle – reputed to be designed by Herbert Baker for George Dunn. Requires further investigation	late 1890's



Figure 61. The Versveld Pass - originally built in 1899 by a local farmer and less than 20 labourers in just three months

Museum who have identified and mapped twelve historically important buildings and sites within the central district (see Table 23). These elements are currently underutilised as heritage resources for conservation, tourism, social cohesion or research and the majority of the built form in this region is under threat due to inappropriate developments and lack of conservation.

Reasonable growth is foreseen in Piketberg because of the town's nodal location, its supportive region and status as the administrative centre of the municipal area. During DEA&DPs 2016 Change Detection project, a closer investigation of Piketberg revealed that building activity over recent years followed an outward direction away from the central business area and away from the older built-up areas. These outward growth trends, with new housing situated on the periphery and with major infrastructure barriers dividing communities contribute to the fact that the spatial structure of Piketberg still mirrors historical social divisions.

The former showground site, together with the adjacent sport facilities and cemetery serves as a 'buffer area' which spatially segregates the affluent and lower income areas. The town's CBD and supporting amenities is situated in the affluent side of the 'buffer area' limiting access to people residing in the lower income area. The N7 also represents a barrier between the town and the industrial area - where industrial employment opportunities are located and potentially growing - due to a lack of pedestrian crossings.

The junction of the N7/R399 needs to be managed appropriately with traffic calming measures urgently needed along the N7 to prevent speeding and degradation of the road. According to the LED Strategy, a survey indicated an average of 1 000 trucks per day traveling on the N7 north and south through Piketberg. A potential truck stop with a variety of services is therefore also needed to accommodate this demand.

The Piketberg rank peaks between 17:00 – 18:00 on a Friday with a total passenger demand of 198 passengers, and between 12:45 – 13:45 on a Saturday with total passenger demand of 270 passengers. Limited facilities for public transport stops and parking areas however currently exist in the town centre to accommodate the

Town	Piketberg
1. Water Source	Upgrading needed before 2020
2. WTW	Upgrading needed between 2020 and 2025
3. WWTW	Upgrading needed between 2025 and 2035
4. Electricity	Upgrading needed between 2020 and 2025
5. Storage	Upgrading needed before 2020

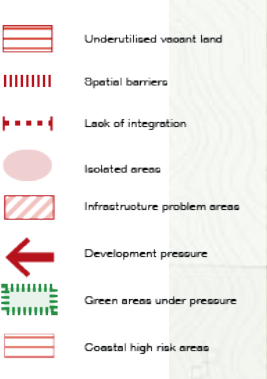


Figure 62. Spatial Analysis and Trends - Piketberg

weekend influx of shoppers from the surrounding rural areas.

The municipal housing backlog is currently under review, but - as is evident from the increase in applicants from 1672 households in 2011 to 1900 in 2016 - the demand is continuing to grow. According to the municipality (A Lawrence, 14 June 2018) the current demand for RDP and GAP housing in Piketberg stands at 1967 households. According to the Draft Infrastructure and Housing Pipeline Report of 2016, the delivery of 200 RDP houses and 40 GAP houses are planned over the course of the years 2018 - 2024. In addition, according to provincial standards, Piketberg currently lacks 2 Primary and 2 Secondary Schools to service the existing population.

In terms of infrastructure, water sources in Piketberg are restricted for future supply and the existing local water distribution system has insufficient capacity to supply the water demands for the fully occupied existing scenario and potential additional future development areas (see Table 24). Reinforcing of the existing system will be necessary to service new developments. Existing drainage areas will need to be increased to accommodate proposed future development areas that fall within these drainage areas. The current electricity network does not perform sufficiently under fault conditions due to loss of major equipment due to faults.

The needs of the community reflect predominantly on public infrastructure such as streets, pavements and street lighting, and water and sanitation on a household level. But, with limited funding for housing and increasing pressures for growth and social services, the need to balance housing and infrastructure delivery becomes a critical priority. The RSEP Programme is however currently being rolled-out in Piketberg and aims to facilitate urban upgrading and renewal of previously disadvantaged neighbourhoods to address spatial segregation.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources

<http://piketbergmuseum.co.za/about/#piketberg-history>

5.1.2. Synthesis

Piketberg is a historic town rich in cultural and architectural heritage, set in a uniquely scenic landscape with defining biophysical features ideal for attractive recreational activities. The town has a strong existing local market, supported by regional agricultural economies and communities, and is strategically located along the N7 route between Cape Town and Namibia. Spatial tensions however continue to exist within the town's urban footprint, with spatial segregation exacerbated due

to the location of isolated housing developments on the periphery and a lack of past interventions or adequate infrastructure to break down spatial barriers. However, these problems are currently being addressed with the implementation of RSEP projects such as paving and lighting along Calendula Street, an outdoor gym and the active box project.

Urban decay and a lack of appropriate heritage management have led to the town not capitalizing on its potential locational benefits. Although the town continues to function as an important regional service centre, it is critical that socio-economic and spatial trends are managed to avoid negatively impacting on the town's potential growth, supported by a resilient green framework and watercourse network.

5.1.3. Spatial Strategies

The spatial concept for Piketberg aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 64, is informed by the broader municipal concept and SDF approach, as well as by the IDP's identified priorities, therefore establishing a localised response to the town's status quo towards a collectively envisioned future.



Figure 63. Degraded buildings characterise the urban fabric of the town centre

“Piketberg, on the N7 Cape Town - Namibia corridor functions as the **northern regional gateway**, linking Namibian, Northern Cape and northern West Coast markets to the Greater Saldanha and Greater Cape Metropolitan regions. It has a resilient local economy based on agri-processing, logistics, commerce and the provision of high quality community and social services to its residents and visitors. The maintained historic fabric of the town as well as the surrounding scenic mountains and landscapes characterize the town and attract locals and visitors to the area.”

Biophysical

1. Maintain urban edges where sensitive biodiversity and vegetation are under threat - such as areas where development is encroaching into the mountain areas.
2. Avoid riparian and wetland features as well as drainage lines not appropriate for urban development, both to support river function and to reduce risk to infrastructure in wet and potentially flood prone sites.
3. Restored riparian buffers to protect river water delivery, quality and flood attenuation ability.
4. Combine restoration of urban green spaces with recreational, functional community parks that can contribute to social integration through shared public green spaces.

Socio-Economic

1. Strengthen the local economy through consolidated commercial and retail node areas and activities in strategic locations.

2. Strengthen the local tourism economy through recreational nodes, festivals and branding strategies.
3. Expand industrial activities on the eastern side of the N7 to promote job creation and skills development.
4. Capitalize on the strategic location of the N7 through promoting Piketberg as a destination rather than pit stop while implementing traffic calming measures and truck stops to support throughfare.
5. Promote investment into rural development opportunities that can potentially combine housing as part of small-scale farming opportunities close to town.
6. Provide opportunities for informal trading and local social upliftment.

Built Environment

1. Promote spatial integration through the development of strategic land parcels within the town centre for community and recreational uses - identified central Integration Zone as new “heart” and gateway into town.

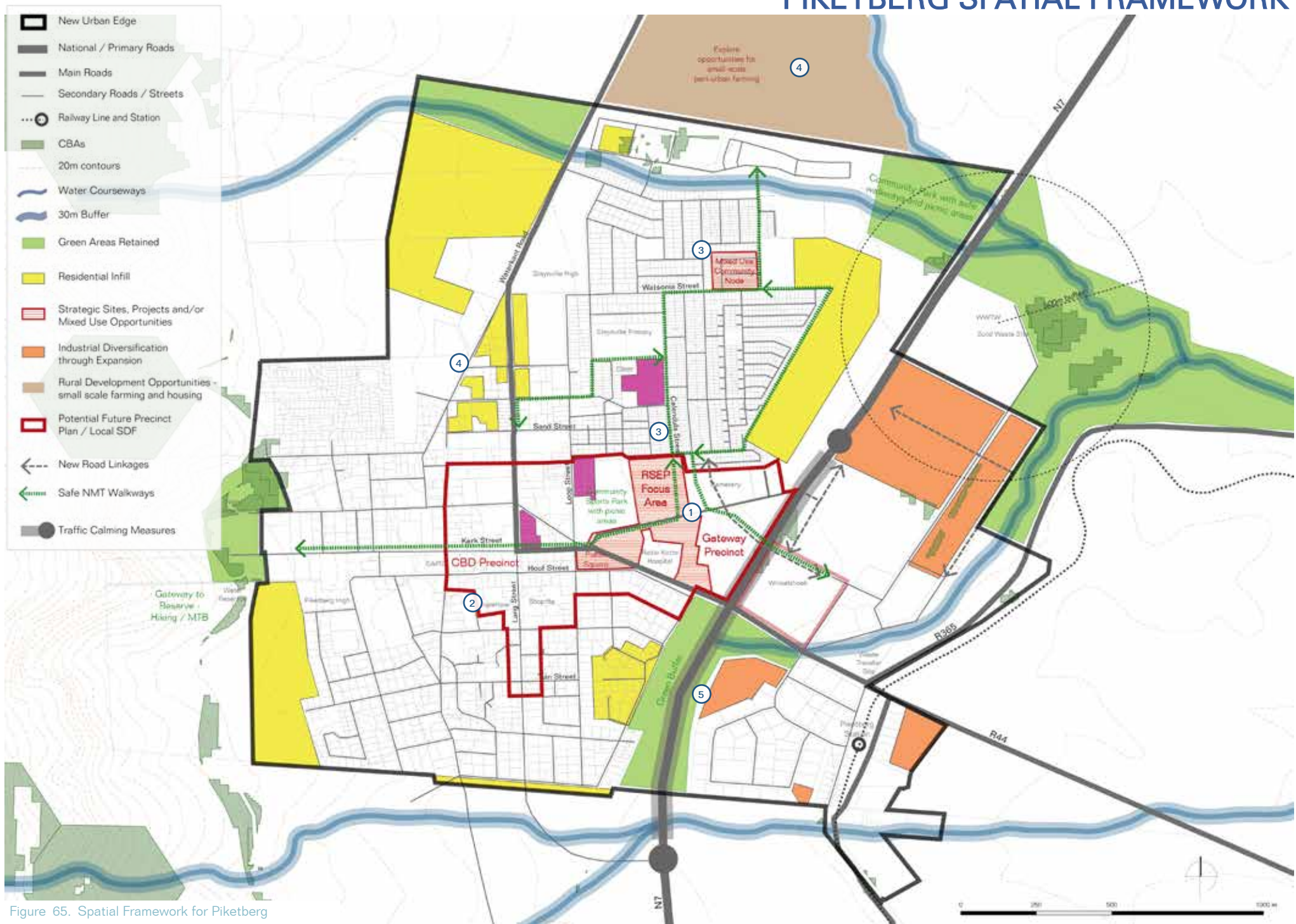
2. Establish safe walkways along key routes for improved pedestrian access through landscaping, seating and other urban design interventions.
3. Promote densification and redevelopment of brownfield sites to accommodate housing in well located areas of town.
4. Prioritise vacant land parcels within town for development over land on the periphery to accommodate existing infrastructure capacities.
5. Protect the valuable heritage resources that characterise the town’s history and urban fabric.

5.1.4. Spatial Development Framework

Figure 65 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Piketberg. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 25 and indicated on Figure 65 with accompanying numbers.

Table 25. Top 5 Strategic Priority Projects for Piketberg

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. RSEP	The implementation and expansion of the RSEP Programme within the Integration Zone along Church Street	3, 4	Develop an investment programme to fast track new business development	Short to Medium (construction already in process)	Precinct Plan for Piketberg CBD and Gateway area - establishing an Overlay Zone for Gateway Precinct Improving surrounding public space and walkways
2. CBD Precinct Plan	Land use management and urban design framework for the CBD Precinct with mechanisms to support business development, informal trading and mixed use opportunities	3, 4	To develop, manage and regulate the built environment	Short to Medium	Heritage management guidelines RSEP Programme
3. Connected Neighbourhood Nodes	Establishment of a commercial node along Watsonia Street to diversify the neighbourhoods in the northern parts of town. Create clear linkages between areas in town via safe walkways.	3, 4	Develop a programme for SMME development with municipal opportunities	Short to Medium	RSEP Safe Walkways
4. Diversify Housing Delivery	Provide housing through various mechanisms and designs...	3, 4	A sustainable, inclusive and integrated living environment	Ongoing	Adoption of Housing Business Plan
5. Industrial Expansion	Skills development	3	To facilitate an environment for the creation of jobs	Ongoing	Locally-based training institutions



5.2. Velddrif/Laaiplek

5.2.1. Status Quo Informants

Velddrif/Laaiplek, which includes Port Owen and Noordhoek, is classified as a coastal town characterised by an economic landscape that recently changed from a centre for services and processing of fishing and agricultural products to a more service-based tourism town. Situated on the pristine Berg River estuary, the town is bordered by the banks of the river, the Atlantic Ocean and surrounding cultivated farmlands. The following sections will unpack the key informants relating to the town's biophysical status, socio-economic trends and built environment performance.

5.2.1.1 Biophysical

The location of Velddrif and Laaiplek on the low-lying estuarine banks of a major river system is the overriding environmental element defining the biophysical context. The natural landscape of the area consists largely of flat coastal land characterised by dry well-drained soil which supports a variety of endemic vegetation such as the Langebaan Dune Strandveld and the Saldanha Flats Strandveld, while also providing suitable conditions for the farming of wheat and potatoes. The flood plains and wetland areas support the Cape Estuarine Salt Marsh vegetation which is host to a large variety of bird species.

It is estimated that about 30 000 wading birds migrate to the estuary annually, and hence the area has officially been declared as an Important Bird Area, considered the third most important estuary in South Africa (WDCM, 2010).

The environmental integrity and biodiversity of large portions of the coastal zone, the Berg River wetlands and the surrounding salt marshes are important elements of both local and regional ecosystems and biodiversity corridors, particularly due to landscape gradients such as the Greater Cederberg Biodiversity Corridor as well as natural heritage and archeological sites in relation to the Berg River. However, cultivation and urban development have impacted on the natural status of the ecosystems, causing a majority of local vegetation reaching critical biodiversity status.

The area faces challenges in terms of minimising encroachment into its highly sensitive areas while encouraging rehabilitation and conservation to optimise ecosystem functioning. The dynamic nature of the estuarine and coastal system is easily visible by comparing available aerial imagery, with e.g. the 1948 images showing substantial movement of the channel and bank locations to their current 2018 locations (See Figure 67). Likewise, the mobile and dynamic nature of the sandy coastal edge is also clearly evident. In coastal towns around South Africa, the unintended consequences



Figure 66. Coastal erosion in Laaiplek

and massive expenses associated with disrupting natural wind and water sand movement systems are becoming apparent, including seasonal erosion and re-deposition cycles typical of most sandy beaches. In Laaiplek existing coastal development within the setback line is already suffering extreme coastal erosion and storm damage in places. Any further development within this mobile zone will have long term costs that far exceed any benefit.

Planning processes assessing the desirability of ad hoc amendments to extend the urban edge to enable settlement development to occur to the south of the Berg River estuary furthers the potential impact of opening up a new geographic area for development in this highly sensitive ecosystem. Given the current level of vacant, serviced land in Velddrif and Laaiplek - an area already characterised by fragmented urban form - the



Figure 67. 1942 and 1960 aerial imagery, as well as a current image from 2019 of the Berg River Estuary mouth showing the dynamic and mobile nature of the system

merits of such proposals are not clear and should be dealt with more comprehensively through future detailed environmental studies.

References: Bergrivier Municipality. (2014). Velddrif/Laaiplek Precinct Plan.

Bergrivier SDF Environmental and Biodiversity inputs into urban edge and urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

5.2.1.2 Socio-Economic

The economic landscape of Velddrif and Laaiplek has changed from a centre for services and processing of fishing and agricultural products to a more service-based town, with the local economy consisting predominantly of tourism, retirees and 2nd home residents. Laaiplek is host to the mechanized components of the fishing industry, boasting a vibrant yet somewhat degrading industrial and business district. Velddrif serves as a community and service centre while also providing economic opportunities to the community of Noordhoek via the light industrial area to the north along Church Street.

The scale and nature of current businesses in town are characterised by small shops and cafes, some tourism curio shops, fishing and agriculture-orientated services, small-scale supermarkets and basic community stores such as pharmacies, hairdressers etc. Major retail outlets currently operational in the towns are limited to OK, Spar, PEP and Checkin.

Velddrif, Laaiplek and Noordhoek are home to year-round local residents whereas Port Owen is more seasonally occupied. The current demand for low cost housing stands at 1303 households, for which 200 RDP houses and 40 GAP houses are planned over the course of the years 2018 - 2024. In terms of social facilities, based on population estimates and provincial standards, the town currently lacks 2 Primary, 1 Secondary School, 2 Crechés, s satellite clinic and skills training or MOD facilities.

References: Bergrivier Municipality Local Economic Development Strategy May 2015

Bergrivier Municipality Fourth Generation IDP 2017 - 2022

Bergrivier Municipality. (2014). Velddrif/Laaiplek Precinct Plan



Figure 68. The watercourse buffer between Noordhoek and Laaiplek, where informal pedestrian routes are visible

5.2.1.3 Built Environment

The town of Velddrif's name originates as "drif in the veld" – a ford or shallow place in a river where it is safe to cross. This name is derived from the convenient access point for crossing the Bergrivier where the Pontoon ferry was located in 1899 prior to the building of the Carinus Bridge (completed in 1959). The pont in turn was located at the point where the settlers moved cattle across the river in shallow waters at a low tide. The Stephan family first established a fishing and trading venture at Soldatens Pos in St Helena Bay during 1800's and subsequently opened up trade to the extent of establishing a presence at the Bergrivier mouth. Here grain was loaded onto schooners at the 'laaiplaats' or Loading Place which is today Laaiplek. (Ellis 2008).

Today an impression of openness dominates the urban landscapes of Velddrif, Laaiplek and Noordhoek due to vast tracks of vacant land, the dispersed built character of the town and wide road layouts. Other elements that characterise the built environment are incomplete housing projects along the coast in Laaiplek, the location of vacant properties throughout the settlements and the degrading nature of building facades in the urban centers.

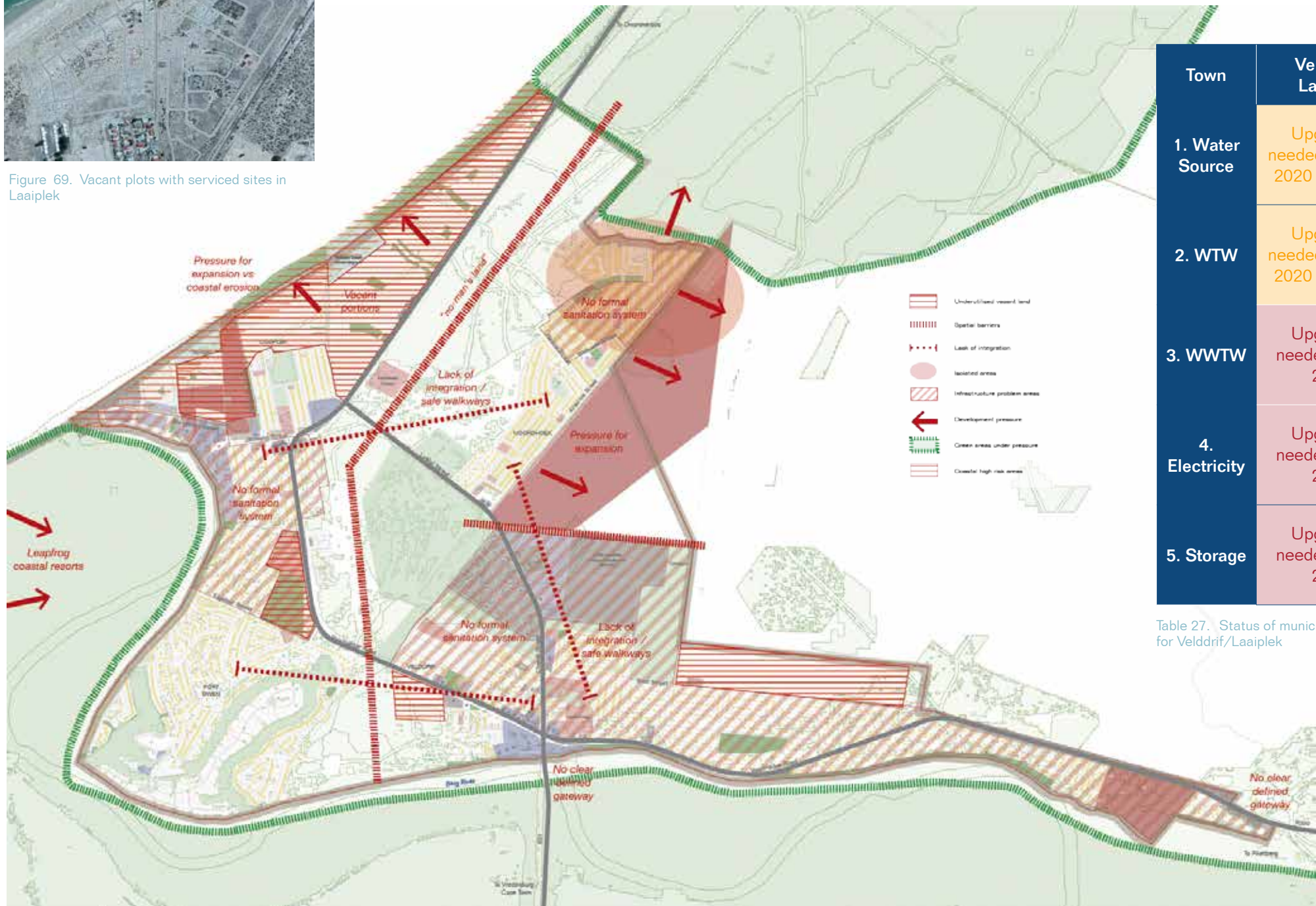
The peripheral neighbourhood of Noordhoek lacks sense of place or identify due to its degrading urban character

Table 26. Velddrif/Laaiplek overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	12 498
	POPULATION 2028 (EST. GROWTH @ 2,2%)	15 656
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	1 x Satellite Clinic / Outreach 2 x Primary Schools 1 x Secondary Schools 2 x Crèche / ECD Skills Training and MOD
	ADEQUATE SUPPLY OF FACILITIES	Community Day Centres Libraries Sport hall and field
	PLANNED PROJECTS (WCG UAMPS)	None
HOUSING	HOUSING WAITING LIST (under review)	1303 households
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2020/21 - 100 RDP Sites and Services 2020/21 - 20 GAP 2021/22 - 100 RDP Top Structures 2023/24 - 20 GAP



Figure 69. Vacant plots with serviced sites in Laaiplek



Town	Velddrif / Laaiplek
1. Water Source	Upgrading needed between 2020 and 2025
2. WTW	Upgrading needed between 2020 and 2025
3. WWTW	Upgrading needed before 2020
4. Electricity	Upgrading needed before 2020
5. Storage	Upgrading needed before 2020

Table 27. Status of municipal services for Velddrif/Laaiplek

Figure 70. Spatial Analysis and Trends in Velddrif/Laaiplek

and the complete separation from all natural attributes due to its peripheral location, separated from the town via industrial and green buffers such as the original watercourse and golf course.

These elements of the current urban structure do not support walkability for tourists or local pedestrians, even though pedestrian movement is very active along the two access streets into Noordhoek (Church & Lofdal). However, most of these routes are unpaved and surrounded by vast open spaces, therefore often perceived as unsafe.

Some unique heritage resources are still well intact, such as Bokkomlaan for which an application was recently prepared by the Municipality with the assistance of the Velddrif Heritage Foundation and submitted to HWC for Bokkomlaan to be declared as either a provincial or Grade II or an IIIA heritage site. The historic core of Laaiplek with its core of old buildings and their position at the head of Jameson Street, although much altered and extended, is also of great urban and heritage significance.

Land use activity in Velddrif and Laaiplek is generally quite complementary and concentrated, with the majority of businesses and facilities located within the two central nodal centres and concentrated along the associated movement corridors. An active taxi rank is located at the intersection of Lofdal, Church and Albatross street, serving the community of Noordhoek. The local community centre is also situated here but lacks further complementary uses. Some spaza shops and house cafes are also prominent in this neighbourhood.

In terms of infrastructure, a large portion of the existing erven in Velddrif/Laaiplek are currently not serviced with a waterborne sewer system. These erven are however serviced by septic tanks. Velddrif is supplied with water from the bulk water scheme of the West Coast District Municipality. The distribution network has two storage reservoirs and is operated in four distribution zones. However, according to GLS the existing Velddrif water distribution system does not have sufficient capacity to supply the future water demands for future development or growth scenarios. Recent increases in pressure on the town's main roads have also been noted due to an

increase in heavy vehicle traffic along the coastal route, moving between Vredenburg/Cape Town and Elandsbaai.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources

Bergrivier Municipality. (2014). Velddrif/Laaiplek Precinct Plan

5.2.2. Synthesis

Velddrif and Laaiplek are both areas rich in natural diversity, cultural history and economic significance. Due to its location at the mouth of the Bergriver, the town is host to a unique landscape which in turn leads to high demand for coastal developments. Without a robust framework for managing its important biodiversity attributes, these resources have historically been threatened by inappropriately located developments, pollution and illegal water abstraction. With its biophysical constraints in mind it is essential that in the context of a dynamic aquatic system at the end of a major river system, environmental protection and long term settlement wellbeing are inseparable for Velddrif and Laaiplek.

The coastline, a potential major asset for recreation and tourism, is instead characterised by vacant, underutilised or degraded harbour and sea front developments with limited public access to the beach or water's edge.

High levels of unemployment are evident due to limited economic diversity in the town itself and the historic dependence on the fishing industry. This is exacerbated

“Responding to increased growth and development in the Saldanha Bay/Vredenburg Regional Economic Hub, **Velddrif/Laaiplek** has become a **coastal town of choice** for both commuting residents, local entrepreneurs, and local and overseas tourists.”

by urban fragmentation and isolation due to peripheral neighbourhoods such as Noordhoek with a lack of investment in public space and functional green spaces.

The area has major potential for utilizing its unique heritage resources to attract visitors and investment to both complement tourism and inform appropriate future development, through proper land use management, public investment in the public realm and promoting the adaptive re-use of historic buildings.

5.2.3. Spatial Strategies

The spatial concept for Velddrif and Laaiplek aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 71, is informed by the broader municipal concept and SDF approach, as well as by the IDP's identified priorities, therefore establishing a localised response to the town's status quo towards a collectively envisioned future.

Biophysical

1. Retain critical viewsheds and sense of place that supports the tourism value of the town as a historical estuarine fishing centre.
2. Avoid development in potential flood and dynamic areas to protect environmental infrastructure that supports human well-being and safety.
3. Maintain the artificially opened estuarine mouth to prevent floodwater build up and natural scouring of the system.
4. Regard all river, estuary and coastal set back lines (Provincial / 2014 Berg Estuary 1:100 flood line) as non-negotiable.
5. Avoid development or urban extensions south of the Berg Estuary where extreme environmental constraints and a number of threatened plant and animal species are present, unless and until sound evidence indicating that specific land parcels are sustainably developable in terms of biophysical, socio-economic and built environment parameters

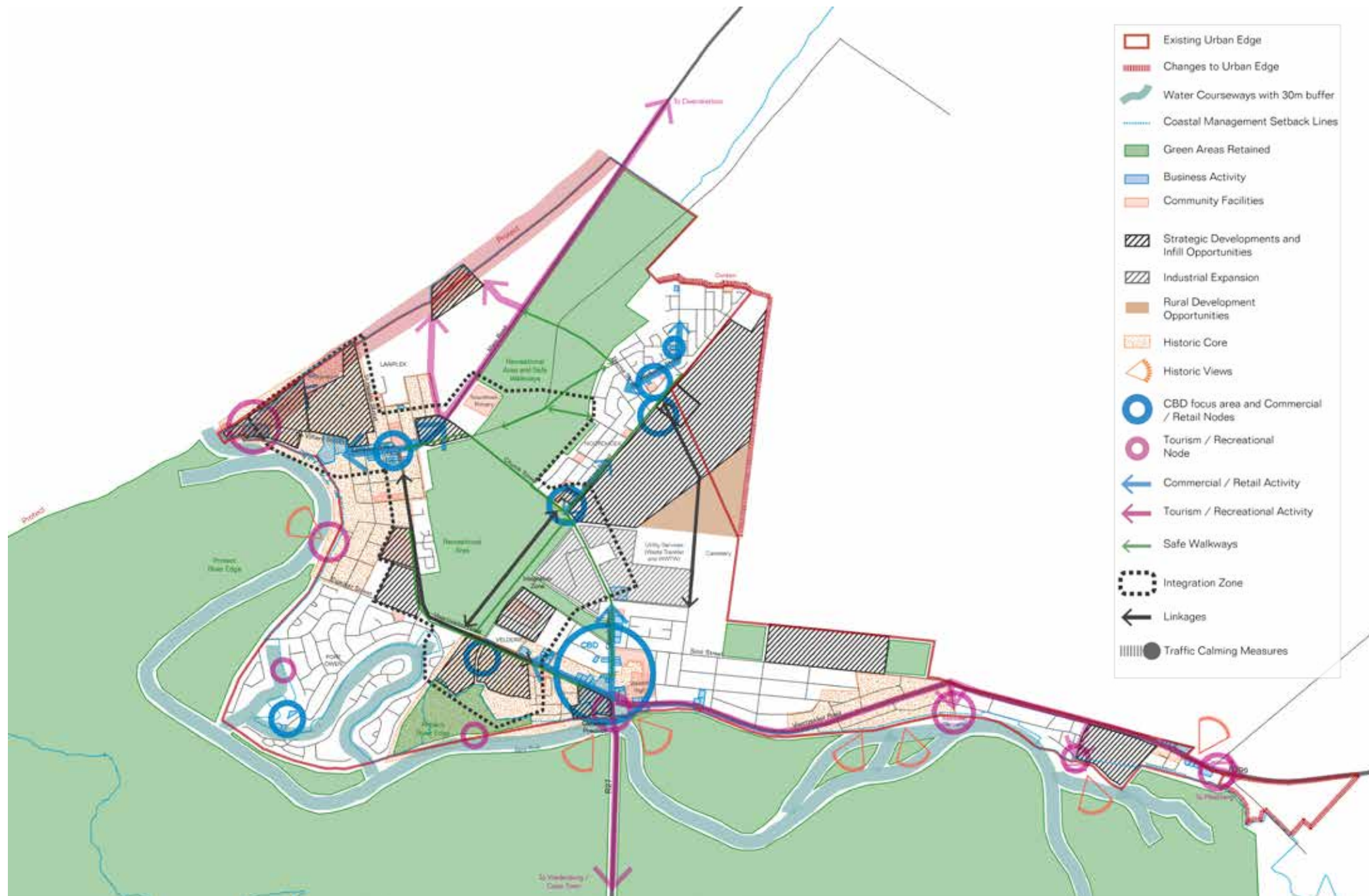


Figure 71. Spatial Concept and strategies for Velddrif/Laaipele

- is made available. Such evidence must be drawn from potential future detailed environmental studies and/or applications that may be brought in terms of NEMA or any other applicable legislation with regard to this area that have been formally approved by all relevant competent authority/ies.
6. Rehabilitate wetlands and utilise green spaces for recreational activities and pedestrian walkways.

Socio-Economic

1. Strengthen the local economy through consolidated commercial and retail node areas and activities.
2. Diversify the local economy by encouraging light engineering or manufacturing businesses that can link with the agricultural industry.
3. Strengthen the local tourism economy through investing in strategic projects as identified in the 2014 Precinct Plan.
4. Promote skills development through attracting new educational facilities such as a Technical University Campus, supported by the development of the Saldanha Bay IDZ.

5. Identify land and infrastructure for a Business Park for the informal sector.
6. Improve freight thoroughfare through the town by rerouting trucks via a garage with truck stop facilities, as identified in the 2014 Precinct Plan.

Built Environment

1. Strengthen the local tourism economy through upgrading existing recreational nodes, promoting urban upgrading of buildings and beautifying the town through landscaping initiatives.
2. Promote active interfaces in central node areas where buildings are directly facing onto streets and public spaces to provide surveillance and continuous activity.
3. Promote densification and redevelopment of brownfield sites to accommodate housing in well located areas of town.
4. Ensure that new developments include a range of land uses that are integrated and designed based on urban design guidelines as per the 2014 Precinct Plan.

5. Diversify the neighbourhood of Noordhoek through encouraging mixed use activities and reconfiguring current community nodes to create public spaces with public transport facilities surrounded by social facilities and commercial activity.
6. Establish safe walkways along key routes for pedestrian access and landscaping.
7. Protect the valuable heritage resources that characterise the town’s history and urban fabric

5.2.4. Spatial Development Framework

Figure 72 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Velddrif and Laaipele. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 28 and indicated on Figure 72 with accompanying numbers.

Table 28. Top 5 Strategic Priority Projects for Velddrif / Laaipele

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Time frame	Preconditions
1. Pelican Harbour Gateway	Landscaping and beautification of open space on corner of Voortrekker road and R27 to develop a public square as gateway entrance to Velddrif. Provide seating, pedestrian walkway and spaces for stalls with commercial activity opening up onto the central square.	6, 7	Precinct Plan in Velddrif Develop an investment programme to fast track new business development	Short to Medium	Site Development Plan for CBD Gateway precinct Private Investment from business owners / Pelican Harbour
2. Coastal Upgrades and Promenade	Development of Coastal Boardwalks and the upgrading of Pelikaan Park, Stywelyne,	6, 7	IDP Ward Project	Short to Medium	
3. Diverse Neighbourhood Nodes	Diversify the neighbourhood of Noordhoek through encouraging mixed use activities and reconfiguring current community nodes to create internal public squares that can be used for informal trading, community gatherings, public transport facilities etc. surrounded by social facilities and commercial activity.	6, 7	Develop an investment programme to fast track new business development	Short to Medium	Engagement with the Noordhoek community to identify key interventions
4. New Connections	The extension of Albatros Street to connect with Voortrekker Street, with landscaping, lighting and pedestrian walkways provided along this new route. Formalise walkways between Noordhoek and Laaipele with recreational spaces in between.	6, 7	To improve transport systems and enhance mobility of poor isolated communities in partnership with sector departments	Short to Long	Detailed road and pathway design
5. Community College	Skills development, technical campus, catering school...WCG owned site	6, 7	To create innovative partnerships with sector departments for improved education outcomes and opportunities for youth development	Medium to Long	Negotiations with Provincial Government and Department of Higher Education and Training

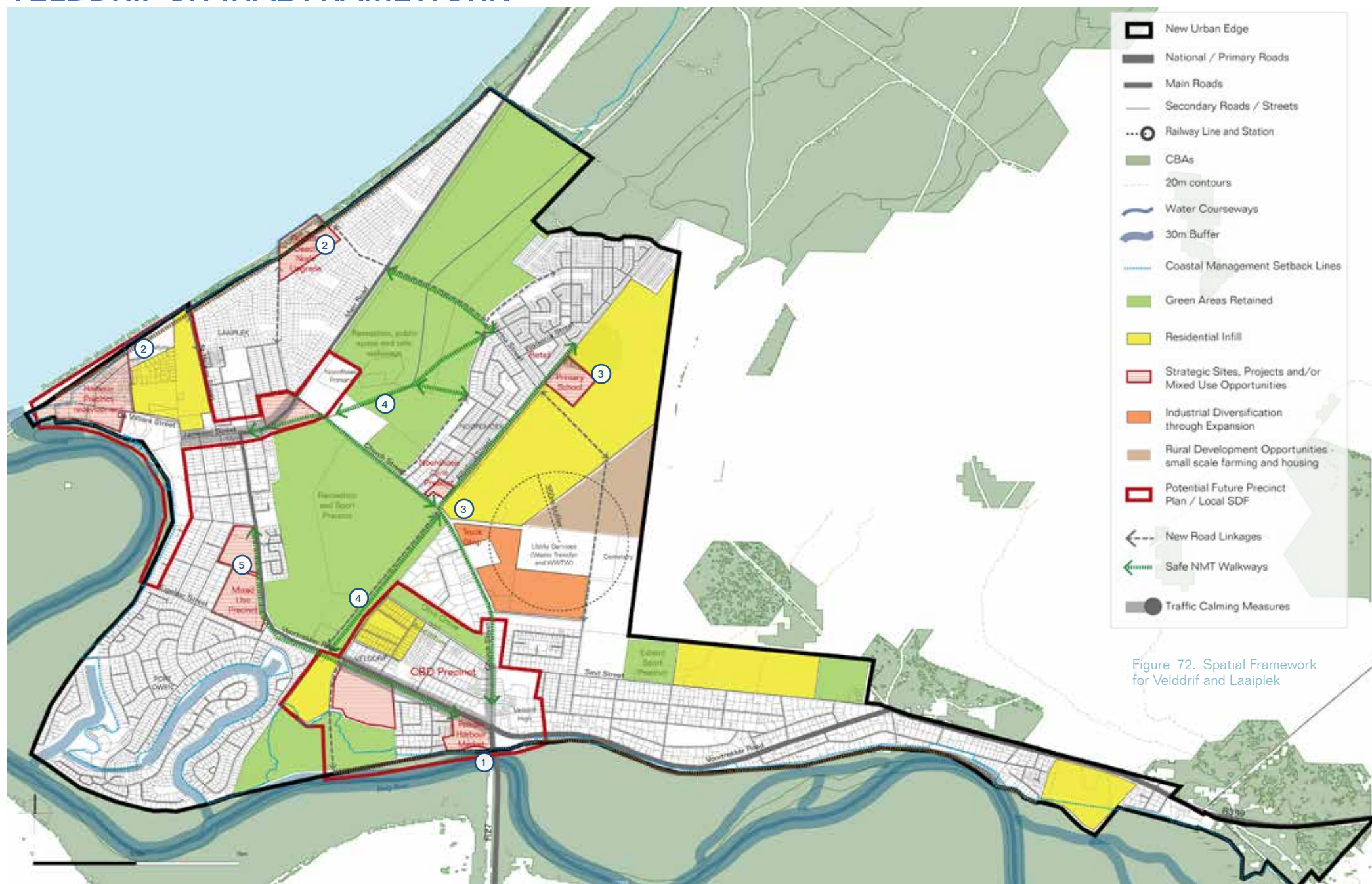


Figure 72. Spatial Framework for Velddrif and Laaiplek

5.3. Porterville

5.3.1. Status Quo Informants

Porterville is a town at the foot of the Olifants River Mountains, considered a central and established town with a long history and a solid base in the agricultural sector with distinct administrative functions situated in a mixed farming region. The following sections will unpack the key informants relating to the town’s biophysical status, socio-economic trends and built environment performance.

5.3.1.1 Biophysical

Porterville is situated in a rich agricultural setting which has important natural heritage links with the surrounding hills, rivers and being in the shadow of the Groot Winterhoek Mountains. Climatic conditions vary from dry, hot summers with powerful thermals (making it the ideal location for paragliding enthusiasts) followed by severe winters, with snow on the mountain peaks and storms rolling in from the Atlantic coast in the west.

The Dasklip Pass leads to the mountain and the Groot Winterhoek Nature Reserve area where a variety of hiking trails to destinations like De Hel and De Tronk with impressive rock formations and waterfalls can be found. The natural vegetation is conserved in the wilderness areas in the mountain via the Reserve and is one of



Figure 73. View of Groot Winterhoek Mountains

the main assets of the region, such as the fact that the Porterville region is famous as the only place where the very rare Uniflora Disa, a beautiful yellow flower, can be found. Even more remarkable is Porterville’s small sulphur yellow Disa colony – the only one of its kind in the world.

There are two streams running through Porterville. The northern stream has been artificially channeled in places and does not always have water in it. The stream becomes polluted through littering and there is also a presence of alien invasive vegetation. The stream runs through a number of tributaries before running into the Berg River and is currently a source of water pollution.

References: Bergrivier Municipality. (2015). Porterville CBD Precinct Plan

Bergrivier SDF Environmental and Biodiversity inputs into urban edge and urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

Local Biodiversity Strategies and Action Plan for Bergrivier Municipality, May 2011

5.3.1.2 Socio-Economic

Although the primary economic base of Porterville is and has always been agriculture, recreational and tourism activities also play a central role. The town functions as the hub of service provisions and a central point to the agricultural segment of the region, with Kaap-Agri’s head office located in Porterville. It was also estimated that in 2013, the 350 visitors that came to Porterville

Table 29. Porterville overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	7703
	POPULATION 2028 (EST. GROWTH @ 2,2%)	9650
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	2 x Primary Schools
	ADEQUATE SUPPLY OF FACILITIES	ECDs Libraries Skills Training
	PLANNED PROJECTS (WCG UAMPS)	New High School Dec 2025
HOUSING	HOUSING WAITING LIST (under review)	1100 households
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2020/21 - 100 RDP Sites and Services 2020/21 - 20 GAP 2021/22 - 100 RDP Top Structures 2023/24 - 20 GAP



Figure 74. Commercial activity along Voortrekker Road

to participate in the Paragliding World Cup, contributed approximately R4 million to the local economy over an eight day period. The development and improvement of public and private tourism infrastructure is therefore critical for sustainable growth.

As a predominantly residential town, Porterville provides social infrastructure such as a church, school, library, clinic, police station and sporting facilities for the town and the surrounding agricultural areas. There is some general provision for automotive services in the CBD including petrol stations and mechanics which assists the local community as well as serve passing tourists traveling to more remote locations. The commercial central area has a number of anchor retail tenants including SPAR, PEP, Foschini, Shoprite, Usave and OK grocer, in addition to several smaller grocery stores, takeaway, and inexpensive clothing shops.

The main road, Voortrekker Street, is the primary arterial road and functions as the town's activity spine, it circulates vehicular traffic and provides services and sale of goods. It is the primary thoroughfare for travelers using the R44 to Namibia, offering vital economic opportunities to the local community. However, instead of capitalizing on this location, the car-orientated extra wide carriage

way design of the street, as well as a lack of trees and pedestrian-oriented public space in the commercial core detracts from the town's character, discouraging passing travelers to stop and explore the town and locals from enjoying and fully utilizing the public space.

The current demand for low cost housing is 1100 households, for which 200 RDP houses and 40 GAP houses are planned over the course of the years 2018 - 2024. In terms of social facilities, based on population estimates and provincial standards, the town currently lacks 2 Primary Schools to serve the local community.

References: Bergrevier Municipality Local Economic Development Strategy May 2015

Bergrevier Municipality Fourth Generation IDP 2017 - 2022

Bergrevier Municipality. (2015). Porterville CBD Precinct Plan

5.3.1.3 Built Environment

Porterville was established in 1862 on lands subdivided off the farm know as Pomona (previously Willemsvallei) of 1820 settler Frederick John Owen. The town was named after William Porter, Attorney General of the Cape Colony (1839 – 1866). It was established as a church town with its first church built in 1876/1877. While much

of the historic fabric within the CBD precinct has been lost or damaged, some fifteen historical buildings have been identified in the Porterville CBD Precinct Plan as conservation worthy in terms of their intrinsic and contextual value.

Porterville comprises of two neighbourhoods - central Porterville north of Park Street and Monte Bertha to the southwest. These two neighbourhoods lack physical and economic integration resulting from apartheid era planning. Many pedestrians travel from Monte Bertha to the CBD by foot through the vacant spaces around the cemetery or along the R44. However, pedestrian facilities between these neighbourhoods are lacking.

There are two public transportation stops for long distance buses, one at the market square at the centre of the commercial zone and another at the northern edge of the Monte Bertha neighbourhood. There are no local public transportation options. In the CBD the provision of parking is abundant - the only setting for constraints of parking seems to be in the commercial core on Saturdays when trucks come in from the local farms for labourers to do their weekly shopping. Route 44 between Porterville and Piketberg suffers from poor road conditions and



Figure 75. Views of Voortrekker Road



Figure 76. The historic Dutch Reformed Church in Porterville, founded in 1879

Table 30. Status of municipal services for Porterville

Town	Porterville
1. Water Source	Upgrading needed between 2025 and 2035
2. WTW	Upgrading needed between 2025 and 2035
3. WWTW	Upgrading needed before 2020
4. Electricity	Upgrading needed between 2025 and 2035
5. Storage	Upgrading needed between 2020 and 2025

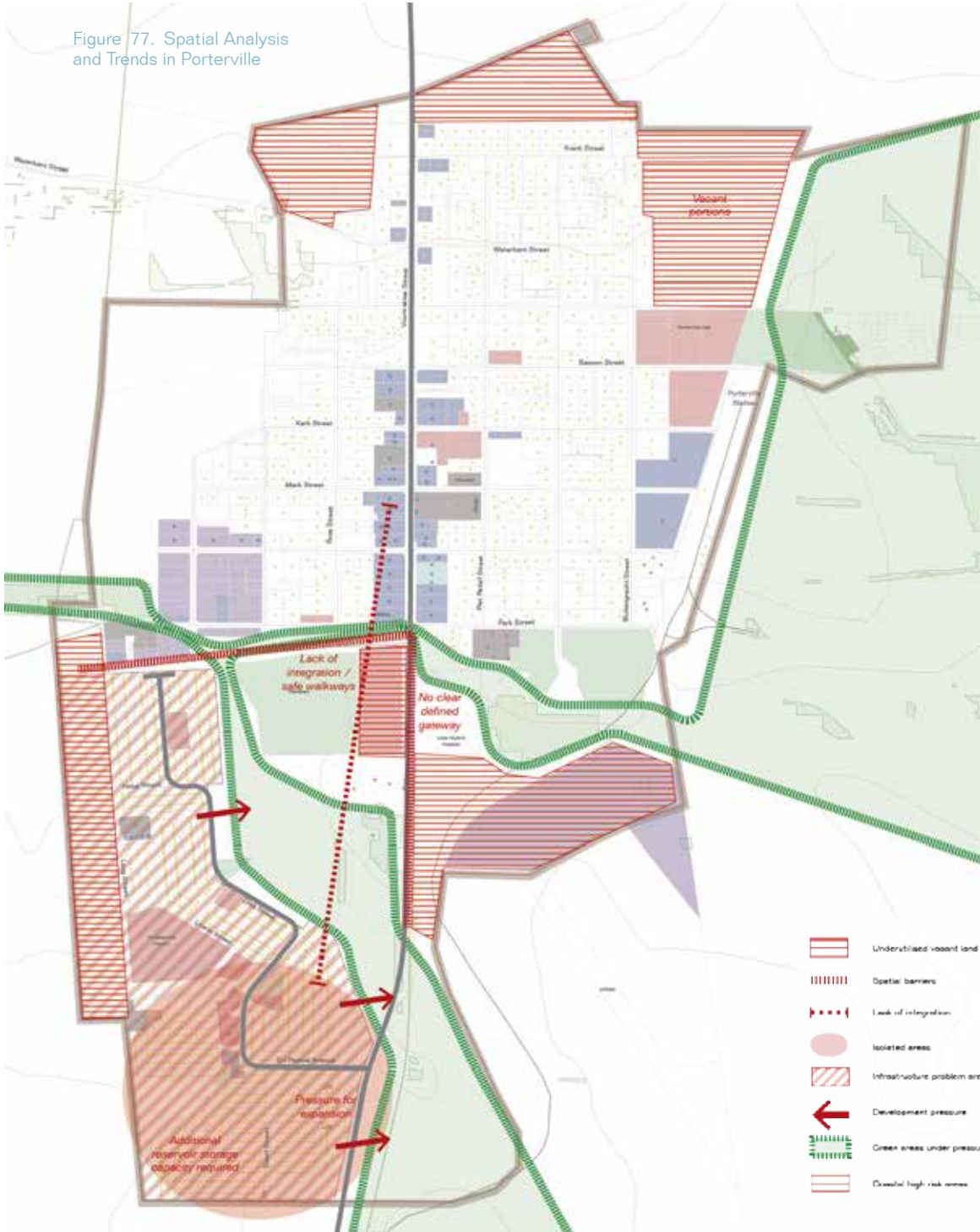




Figure 78. Spatial barriers between Monte Bertha and the CBD

crossing Voortrekker Street in the CBD is dangerous, especially when there is heavy traffic on the weekends.

Many of the buildings in the CBD are stepped back from the street, lack visual permeability, visual interest and engagement with pedestrian space. The sidewalk varies in width creating constraints for the opportunity to plant street trees and provide outdoor retail displays, café seating and other street furniture. The old social core of the precinct featuring the church and market squares, the museum and library and village green is on the periphery of the main corridor. While these facilities are generally sufficient for tourism, there is a lack of unique destinations in town, which often draw tourist in in other similar small towns.

Recent efforts were made to reactivate the market square, address the need for informal trading spaces, improve safety and provide services on an important corner of the market. This took the form of designated parking bays, a public ablution facility and two market structures that provide secure storage for market vendors and facility for tourism services. However, the market stalls are not appropriately used as it only operates at peak times on Saturday mornings and the remainder of the week are blank walls with rolled down shutters, effectively barricading visibility and reducing edge activation of the village green. Entrances to surrounding buildings are either seldom used or do not open to the park, further decreasing activity and safety

In terms of infrastructure, the existing Porterville water distribution system has insufficient capacity to support major additional future development. Pipe network reinforcements along with a new 2 500 kL reservoir and a new 800 kL reservoir are required in future. The existing Porterville electricity network has no significant infrastructure problems. However, the Monte Bertha 11kV Overhead Line feeder does not have enough capacity (as of 2015) to cater for future developments. Further, the current electricity network does not perform sufficiently under fault conditions.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources

Bergrivier Municipality. (2015). Porterville CBD Precinct Plan

5.7.5. Synthesis

With its location on the R44 route, in combination with its unique physical surrounding already an established attraction for adventurous tourists, Porterville has the potential to establish a solid basis for economic growth while providing a safe and convenient location for local communities to reside. However, the distinct lack of economic and physical integration between the different areas of town, as well as vacant and neglected historic buildings and a lack of adequate public space detracts from these potentials and highlights the urgent need to put in place a programme for the management of the built environment and heritage of the town. The development and improvement of public and private tourism infrastructure is also critical for the sustainable growth of the town's economy.

5.7.6. Spatial Strategies

The spatial concept for Porterville aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy.

5.7.7. Spatial Strategies

The spatial concept for Porterville aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 80, is informed by the broader municipal concept and SDF approach, as well as by the IDP's identified priorities, therefore establishing a localised response to the town's status quo towards a collectively envisioned future.

Biophysical

1. Avoid riparian and wetland features as well as drainage lines not appropriate for urban development, both to support river function and to reduce risk to infrastructure in wet and potentially flood prone sites.
2. Protect the function of the town's urban streams through encouraging stormwater management that improves water quality and creates opportunities to walk down to and engage with the water to improve environmental awareness and promote stewardship.
3. Combine restoration of urban green spaces with recreational, functional community parks that can

“Building on its growing importance as a regional hub for east-west-bound road traffic as well as its well-established reputation as a base for local and overseas tourists to access a range of eco- and adventure tourism offerings, **Porterville** has developed into a **multifaceted small town with a unique sense of place.**”

PORTERVILLE SPATIAL CONCEPT

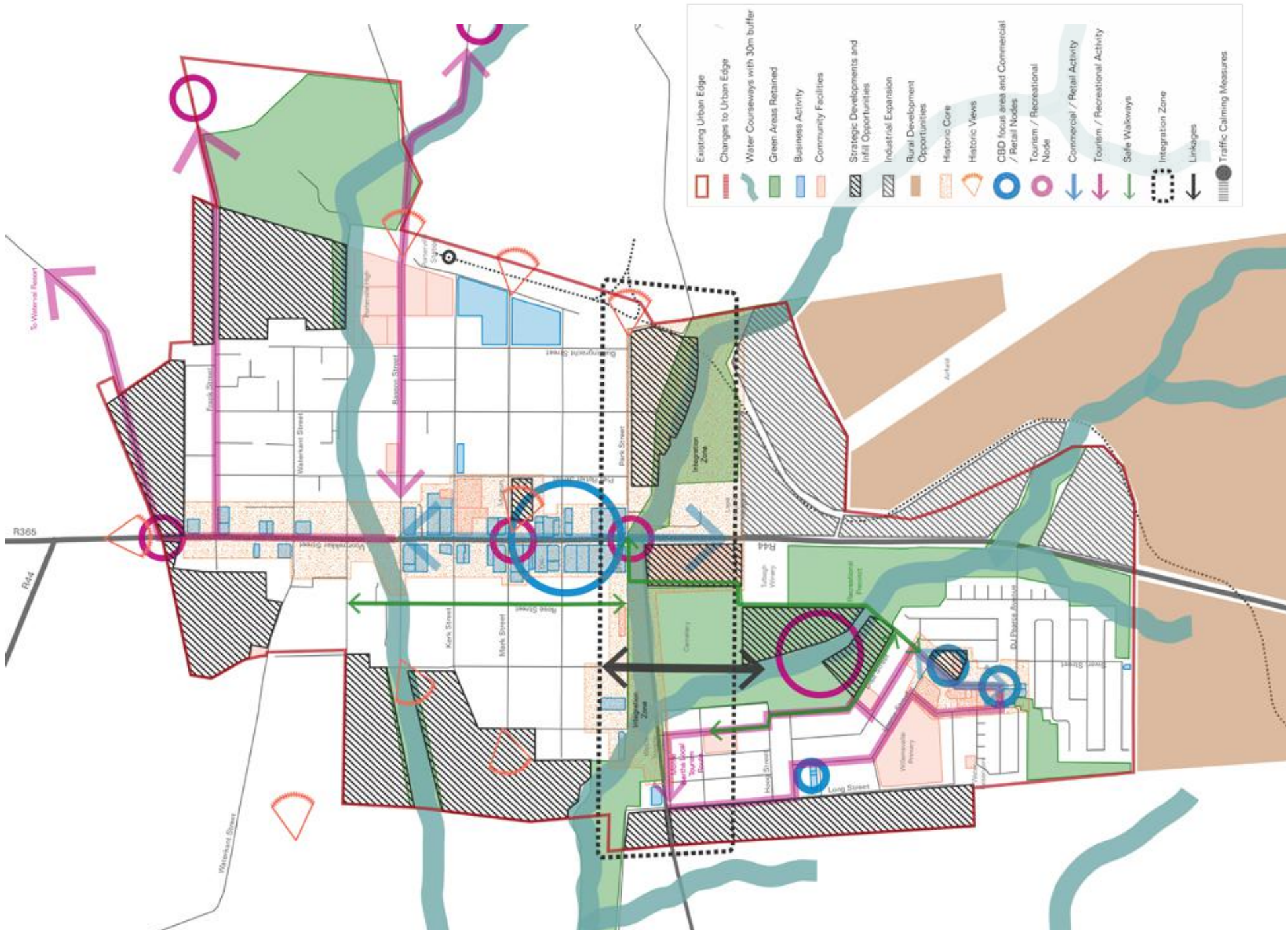


Figure 79. Spatial Concept and strategies for Porterville

contribute to social integration through shared public green spaces while also enjoyed by visitors.

4. Protect views that provide a sense of connection between Voortrekker Street and the surrounding landscape of mountains and agriculture.

Socio-Economic

1. Strengthen the local tourism economy through developing attractive recreational nodes and building upon existing festivals and marketing platforms.
2. Promote investment into rural development opportunities that can potentially combine housing as part of small-scale farming opportunities close to town.
3. Maintain and strengthen the diversity of choices in the commercial core by encouraging boutique retail

and dining options while providing opportunities for informal trading and markets.

4. Accommodated new businesses in existing vacant buildings and unlock other vacant sites within the urban central areas of town and Monte Bertha to consolidate commercial activities and social facilities.

Built Environment

1. Draw from Porterville's character of streets lined with trees, pride in private gardens and surrounding agricultural and natural landscape by softening the commercial corridor with landscape features.
2. Promote spatial integration and improved pedestrian access through the development of a community park along Park Road, connected into Monte Bertha with safe walkways and sport and recreational activities.

3. Create a new vehicular bridge that provides a direct link into Monte Bertha.

4. Protect the valuable heritage resources that characterise the town's history and urban fabric and promote adaptive re-use of vacant and neglected buildings to celebrate local heritage.

5.7.8. Spatial Development Framework

Figure 81 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Porterville. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 31 and indicated on Figure 81 with accompanying numbers.

Table 31. Top 5 Strategic Priority Projects for Porterville

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. Voortrekker Road Corridor Improvements	Widening of sidewalks, planting street trees, improving transparency and access between the sidewalk and businesses and consolidating parking in order to prioritise pedestrian movement and improve thoroughfare while attractive visitors.	1, 2	To facilitate an environment for the creation of jobs	Short to Medium	Funding raised in terms of Precinct Plan for Porterville
2. Market Plein Public Square	Opening up the square to Voortrekker Street, framing it with a mix of temporary and permanent market structures, providing a low wall to define the edge and opening up surrounding buildings to activate the space as the "heart" of town.	1, 2	Facilitate an enabling environment for economic growth to alleviate poverty	Short to Medium	Adoption of concept and implementation designs
3. Spruitjie Park	Develop the open space between Park Street and Monte Bertha into a formal park both active and passive recreational opportunities to encourage social interaction and enjoy the connection with nature. Provide safe walkways and new connections into Monte Bertha	1, 2	A sustainable, inclusive and integrated living environment	Short to Medium	Development Plan prepared by Landscape Architect in consultation with Porterville communities
4. Community Services Precinct	Redevelopment of site into space for skills training, health services, sport and cultural facilities.	1, 2	To create innovative partnerships with sector departments for improved education outcomes and opportunities for youth development	Short to Long	Negotiations with Provincial Government and Department of Higher Education and Training
5. Monte Bertha CBD Diversification	Overlay Zone, promote business development, incentives	1, 2	To develop, manage and regulate the built environment	Short to Medium	Amendment of the Integrated Zoning Scheme By-Law

Bergrivier Municipality Spatial Development Framework 2019 - 2024



5.4. Eendekuil

5.4.1. Status Quo Informants

Situated 30 km north of Piketberg, Eendekuil functions as a lower-order agricultural centre and residential town providing social infrastructure for both the town and surrounding agricultural areas. The following sections will unpack the key informants relating to the town's biophysical status, socio-economic trends and built environment performance.

5.4.1.1 Biophysical

The biophysical environment surrounding Eendekuil is defined by the location on the Kruismans Rivier within a substantially transformed agricultural landscape. Very little natural vegetation is left in the vicinity of Eendekuil due to these extensive agricultural practices, and the banks of the tributary and river system are depleted of almost all original vegetation. Alien vegetation has also infiltrated these areas.

Bergrivier SDF Environmental and Biodiversity inputs into urban edge and urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

Local Biodiversity Strategies and Action Plan for Bergrivier Municipality, May 2011



Figure 81. Eendekuil landscape and surrounding environment

5.4.1.2 Socio-Economic

Eendekuil's major function is and has always been dictated by its location on the regional rail route, serving as a small rail centre within this network. Despite its size, it plays a significant role in the citrus industry as it is the station closest to the farms around Citrusdal. Grain is collected and stored in the silos at the station and is then sent by train to other destinations.

Eendekuil used to be known for producing fairly good cheeses at its Zebraskop Co-operative cheese factory. But several cheese factory mergers later, it no longer functions and, as this used to be one of the main enterprises for the town, locals now get most of their work on citrus farms in the area. The factory has been replaced by an orange packing shed. Cape Dry Products, a producer owned company which specializes in the processing, sterilization, bulk packaging and distribution of Rooibos tea, was bought in 2012 by 6 Rooibos producers in the Eendekuil area and now has a factory just south of Eendekuil.

As a rural residential village it is home to current inhabitants, surrounding farm workers and retirees. The current demand for low cost housing is 229 households, for which 40 RDP sites and services are planned for the period 2018 - 2024. However, due to the low growth rate

Table 32. Eendekuil overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	1781
	POPULATION 2028 (EST. GROWTH @ 2,2%)	2231
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	TBC
	ADEQUATE SUPPLY OF FACILITIES	TBC
	PLANNED PROJECTS (WCG UAMPS)	None
HOUSING	HOUSING WAITING LIST (under review)	229 households
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2021/22 - 20 RDP Sites and Services 2023/24 - 20 RDP Sites and Services

and low development potential of Eendekuil there is no need to provide for substantial amounts of subsidised housing, if any, in Eendekuil itself. Due to Eendekuil's role of supplying housing to farm workers of the region however, there is potential to supply serviced erven for self-build housing and small scale farming.

References: Bergrivier Municipality Local Economic Development Strategy May 2015

Bergrivier Municipality Fourth Generation IDP 2017 - 2022

2016 SA Rooibos Council Annual Report

5.4.1.3 Built Environment

Eendekuil was named by hunters who found wild ducks in the area, and therefore refers to the large numbers of water birds, particularly wild ducks, that use the stretches of the Verlorenvlei and Kruismans rivers that drain the Eendekuil basin. This small town was established as a terminus on the railway line and operated as such until the end of the South African War.

The town is laid out in two distinct nodes – the northern node comprising the train station, silos and Kaap-Agri store and the southern residential node housing farm workers and retirees with some essential social facilities such as a church, school, library, clinic, sporting facilities and a hotel. There is also a bus service between Citrusdal and Eendekuil for reaching larger urban centres for services.

In terms of built heritage the mid-century Dutch Reformed church designed by P le Roux commands a landmark presence on the main road by virtue of its scale rather than its excellence in design. The town lacks aesthetic significance as it has lost most of its built form heritage, such as a T-shaped thatched roof homestead referred to by VASSA (The Vernacular Architecture Society of South Africa) as a building of 'great authenticity', that was left uninhabited and deteriorating in 2000, and now completely demolished.

A portion of the existing erven in Eendekuil are currently not serviced with a waterborne sewer system. These erven are currently serviced by septic tanks. The existing Eendekuil water distribution system has insufficient capacity to support future development. Therefore, in terms of infrastructure, no further development is possible until water and sewer infrastructure is implemented and the reservoir capacity increased.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources



Figure 82. Eendekuil's Dutch Reformed church



Figure 83. Eendekuil's bus station

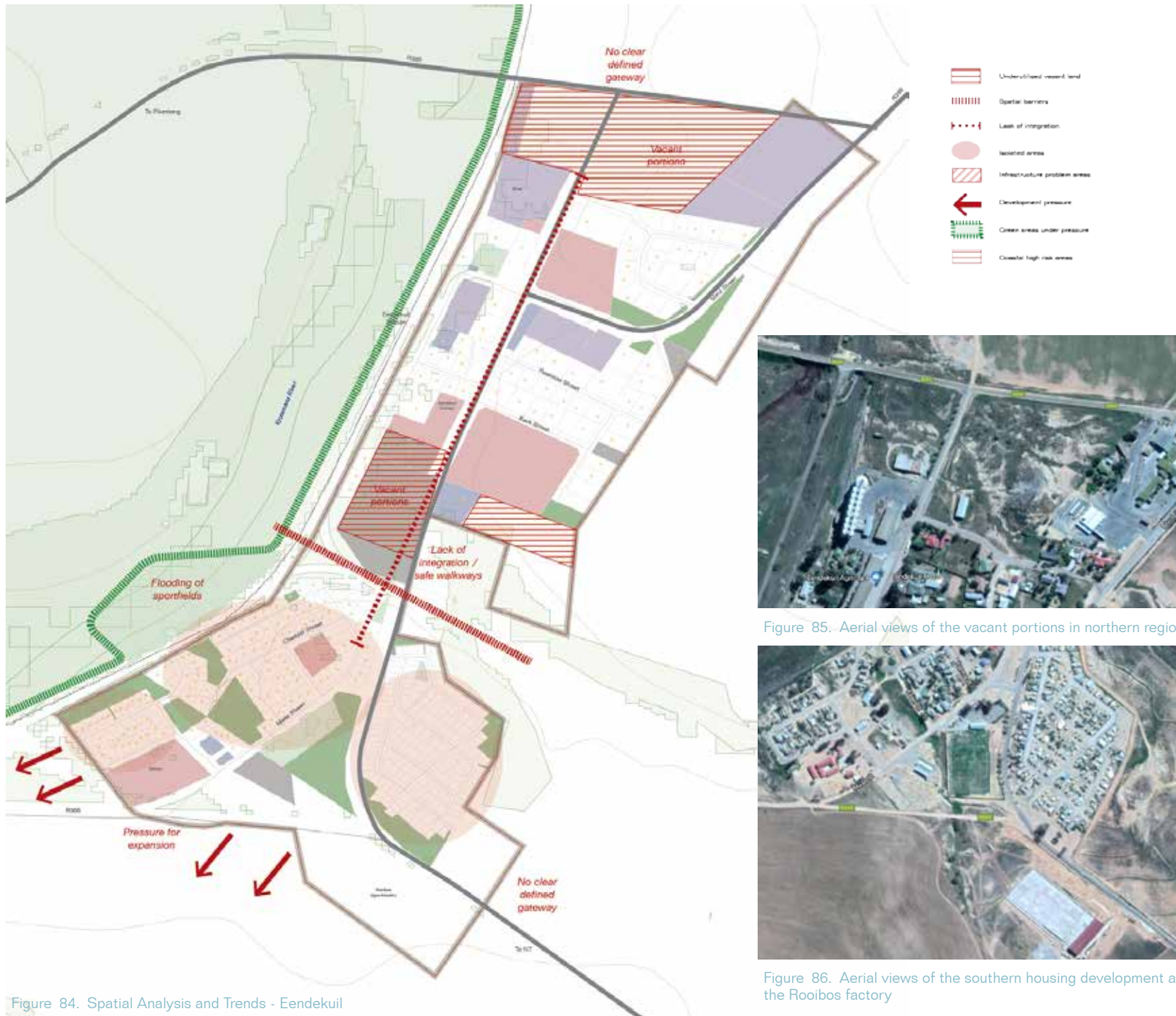


Figure 84. Spatial Analysis and Trends - Eendekuil

Town	Eendekuil
1. Water Source	Upgrading needed between 2020 and 2025
2. WTW	Upgrading needed between 2020 and 2025
3. WWTW	Upgrading needed between 2020 and 2025
4. Electricity	Upgrading needed between 2020 and 2025
5. Storage	Upgrading needed between 2020 and 2025



Figure 85. Aerial views of the vacant portions in northern region of town



Figure 86. Aerial views of the southern housing development area and the Rooibos factory

Eendekuil played a significant role in the agricultural system and processing history of the region in which it is situated. It also hosts unique bird activities and is situated in a scenic valley surrounded by the Olifants River Mountains and Piketberg. These natural and agricultural attributes have the potential to sustain the rural settlement and its inhabitants through small scale interventions and a more modest approach to the liveability of the town and its economy.

The spatial identity of Eendekuil's urban area, described as two separated residential entities, need to be integrated through community-driven public spaces or recreational activities to make use of the watercourse that currently serves as the barrier between the neighbourhoods. Growth to the south also exacerbates this spatial divide, and the identified future extension of the town on the south-western edge due to development of housing pressure intrudes into environmentally sensitive area and will trigger an EIA process if proceeded with.

The smaller agricultural centres of **Aurora, Redelinghuys and Eendekuil** continue to function as **rural service centres** where focus has been placed on ensuring that communities residing in and around these towns can access a high quality of business support and community services. These towns have also capitalised on their unique settings and have developed **niche-offerings to the tourism market.**

Figure 87. Spatial Concept and strategies for Eendekuil

Figure 87. Spatial Concept and strategies for Eendekuil

5.4.3. Spatial Strategies

The spatial concept for Eendekuil aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 87, is informed by the broader municipal concept and SDF approach, as well as by the IDP's identified priorities, therefore establishing a localised response to the town's status quo towards a collectively envisioned future.

Biophysical

1. Avoid riparian and wetland features as well as drainage lines not appropriate for urban development, both to support river function and to reduce risk to infrastructure in wet and potentially flood prone sites.
2. Protect the function of the town's urban streams through encouraging stormwater management that improves water quality and creates opportunities to

walk down to and engage with the water to improve environmental awareness and promote stewardship.

3. Combine restoration of urban green spaces with recreational, functional community parks that can contribute to social integration through shared public green spaces while also enjoyed by visitors.

Socio-Economic

1. Invest in skills development through a Skills Training Centre for traditional skills and a aftercare centre for the youth.
2. Promote investment into rural development opportunities that can combine housing as part of small-scale farming opportunities close to town.
3. Support rural development programmes and training to increase small livestock production, animal health and farm environmental performance.

Built Environment

1. Promote spatial integration and improved pedestrian access through the development of a cultural park, connected with safe walkways and sport and recreational activities.
2. Promote the adaptive re-use of vacant and neglected buildings to celebrate local heritage.

5.4.4. Spatial Development Framework

Figure 88 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Eendekuil. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 34 and indicated on Figure 88 with accompanying numbers.

Table 34. Top 5 Strategic Priority Projects for Eendekuil

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. Youth and Skills Centre	A centre that can provide access to computers, afterschool activities and skills programmes that can build agency for youth, women and workers on farms and provide them with technological, social or legal support for future development and employment.	5	Promote a safe, healthy, educated and integrated community	Short to Medium	Partnership with National Rural Youth Service Corps programme and National Youth Development Agency Engagement with Path out of Poverty
2. Cultural Park	Develop the watercourse central space into a cultural park with both active and passive recreational opportunities such as hiking, play areas, performance areas and sites for picnic to encourage social interaction and enjoy the connection with nature.	5	To promote healthy life styles through the provision of sport and other facilities and opportunities	Short to Medium	Basic Environmental Assessment
3. Rural Development Housing Pilot Project	Explore options for unlocking land that can be divided for small scale farmers with serviced sites for self build housing opportunities.	5	Develop a programme for food security in conjunction with sector departments and investors.	Short to Long	Partnerships with DRDLR and Provincial Department of Agriculture
4. Local Produce Market	A dedicated space where local farmers and urban agricultural gardens can sell local produce.	5	To facilitate an environment for the creation of jobs	Short to Medium	Site Development Plan
5. Rail Station Heritage Precinct	Celebrate the rail station's significance and heritage through tourism activities and urban design and landscaping interventions	5	A sustainable, inclusive and integrated living environment	Medium to Long	Develop project in consultation with Heritage Specialist and Heritage Western Cape

Figure 88. Spatial Framework for Eendekuil



5.5. Dwarskersbos

5.5.1. Status Quo Informants

Dwarskersbos is a linear coastal town located along the West Coast approximately 15 kilometres north of Velddrif, known as a popular holiday destination with its pristine and unspoiled beaches. The following sections will unpack the key informants relating to the town’s biophysical status, socio-economic trends and built environment performance.

5.5.1.1 Biophysical

Dwarskersbos is situated along the coastal strip north of Velddrif and is home to natural dune vegetation forming a definite attraction. It has a clean long beach and has become known for its angling, water sports and swimming. In the winter months, whales and rare Heaviside Dolphin can be seen near the coast- a popular attraction to many visitors. The Rocherpan Nature Reserve is situated in Dwarskersbos and is home to rare avian species, including aquatic and endangered varieties.

The sandy coastline is however subject to highly dynamic coastal processes of erosion and deposition. In the last 25 years the high water mark has moved 25m towards the sea and the profile of the dune around Dwarskersbos



Figure 90. Scenic coastline

has become significantly flatter. Increased development along the coast has contributed to these processes, and the majority of the town’s footprint is situated within the Provincially identified high and medium risk coastal zone areas.

Coastal development pressure continues, and a recent development was approved along the coast within the Open Zone 3 on the basis that the remainder of this Nature Reserve coastal stretch from Dwarskersbos to Velddrif be declared a conservation area as per agreement with Cape Nature (see Figure 95). A fossil bank has also been identified in this area, and it is recommended that the salt pans along the coast must also be included in coastal protection areas.

Bergvriev SDF Environmental and Biodiversity inputs into urban edgeand urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

Local Biodiversity Strategies and Action Plan for Bergvriev Municipality, May 2011



Figure 89. Houses built close to the shore in Dwarskersbos (<https://hiveminer.com/Tags/dwarskersbos>)

Table 35. Dwarskersbos overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	787
	POPULATION 2028 (EST. GROWTH @ 2,2%)	986
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	TBC
	ADEQUATE SUPPLY OF FACILITIES	TBC
	PLANNED PROJECTS (WCG UAMPS)	None
HOUSING	HOUSING WAITING LIST (under review)	NA
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	NA

5.5.1.2 Socio-Economic

From the period 2011 - 2016, Dwarskerbos experienced a growth rate of 2,3% - the highest growth rate of all settlements in Bergvriev. As a coastal holiday village, it provides mainly residential uses for local inhabitants, retirees and national and international visitors. Due to the town’s popularity as a holiday destination it experiences a large influx of people over the holiday periods, with the population numbers increasing up to 8000 people during these periods. These trends influence the growth of development but not necessarily in a sustainable or spatially integrated manner. The fluctuating population numbers also do not support the provision of many services in the town, therefore a balance between services as well as economic opportunities in Velddrif and Dwarskersbos is needed.

References: Bergvriev Municipality Local Economic Development Strategy May 2015

Bergvriev Municipality Fourth Generation IDP 2017 - 2022

Given the large number of vacant erven within the existing footprint or abutting the town without CBA status and outside of the risk zones, there is no reason to consider further impacts on undeveloped habitats for residential extension.

The main road of Dwarskersbos serves primarily as a transport thoroughfare and lacks pedestrian facilities and safe walkways, especially for children and visitors during the holiday seasons. Trucks transiting from Elands Bay to Saldanha are a hazard to locals as they do not, reportedly, obey speed restrictions when passing through Dwarskersbos.

A portion of the existing erven in Dwarskersbos are currently not serviced with a waterborne sewer system. These erven are currently serviced by septic tanks. The existing Dwarskersbos water distribution system has insufficient capacity to supply future water demands for additional future development and a pump station needs to be checked

Servicing the un-serviced erven in Dwarskersbos with a waterborne sanitation system was included in the 2015 sewer masterplan. This will require new section of sewers for all the erven currently not serviced along with their accompanying pumping stations and rising mains.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016



Figure 92. Soverby Lapa Beach Restaurant seating



Figure 91. Slakkepas, a security complex development in Dwarskersbos



Figure 93. The wooden walkway from Soverby Lapa Beach Restaurant to the beach



Figure 96. Services starting to be put in place along the coast for new development

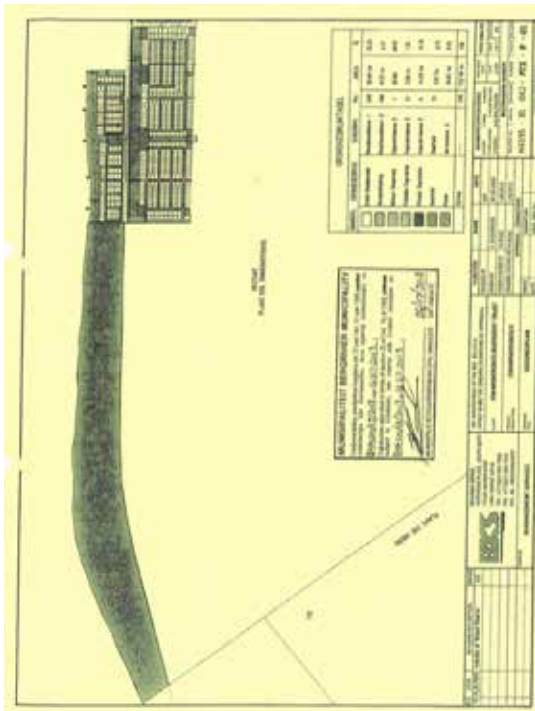


Figure 95. The approved development and the area declared as conservation area to the south

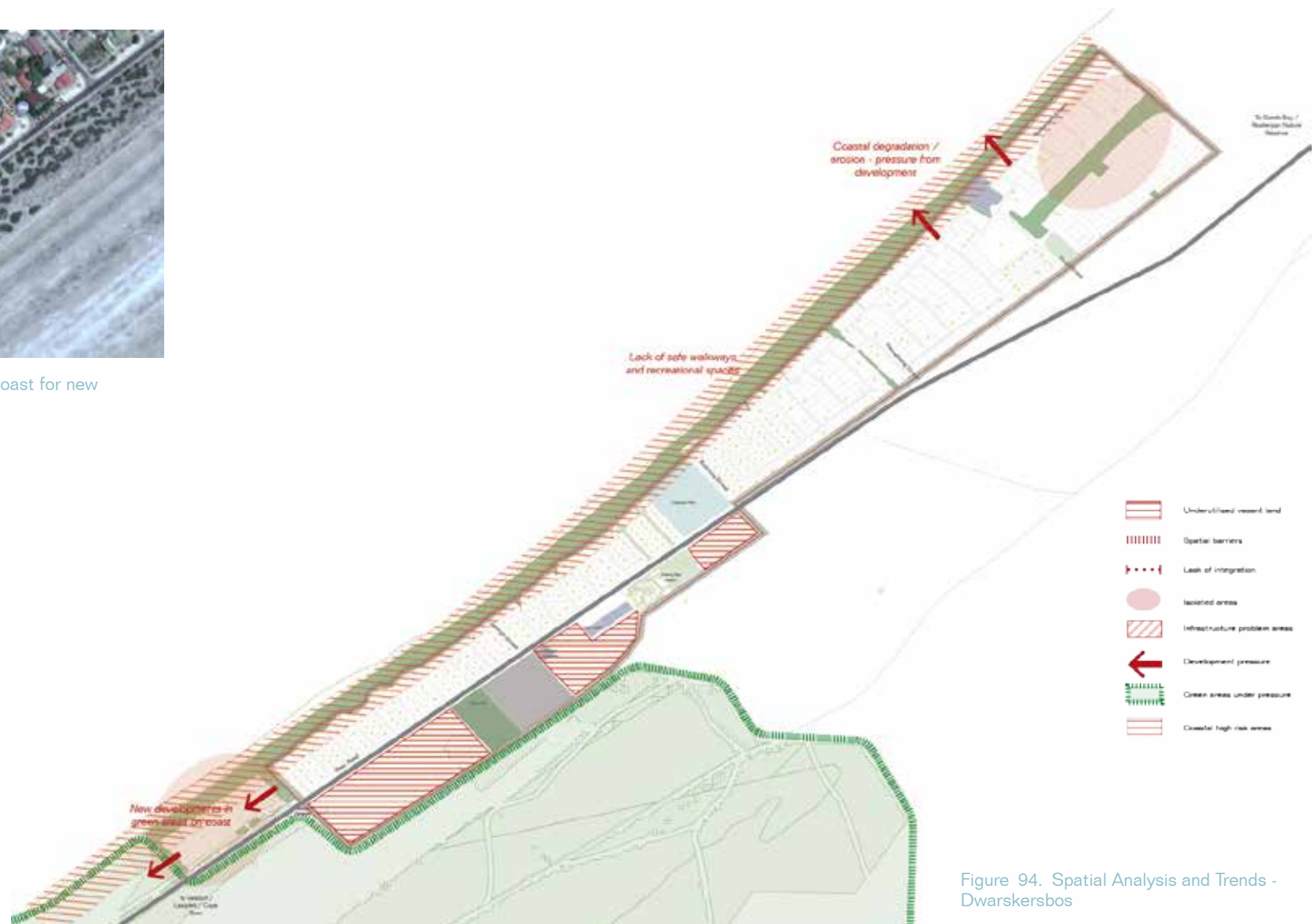


Figure 94. Spatial Analysis and Trends - Dwarskroon

Table 36. Status of municipal services for Dwarskroon

Town	Water Source	WTW	WWTW	Electricity	Storage
Dwarskroon	Upgrading needed between 2020 and 2025	Upgrading needed between 2020 and 2025	Upgrading needed between 2025 and 2035	Upgrading needed between 2025 and 2035	Upgrading needed between 2025 and 2035

5.5.2. Synthesis

Due to its sought after coastal location and proximity to Cape Town and Saldanha, development in this area is on the increase and therefore requires a robust framework for built environment and environmental management to maintain the function of the coastline while building on its existing value for the municipality.

The maintenance and support of infrastructure services to support the influx of holiday makers over the holiday periods are crucial as well as the establishment of a balance between what services are available and more feasible for Velddrif versus what the town of Dwarskersbos needs in terms of a supporting central business and community node.

In responding to the changes brought about by climate change and a dynamic coastline, Dwarskersbos has managed to secure the integrity of all properties in risk-prone areas and has consolidated its status as a **unique satellite settlement** to Velddrif/Laaiplek with a stable urban footprint, maintained in recognition of the sensitivity of the surrounding coastal zone and conservation-worthy land areas.

DWARSKERSBOS SPATIAL CONCEPT

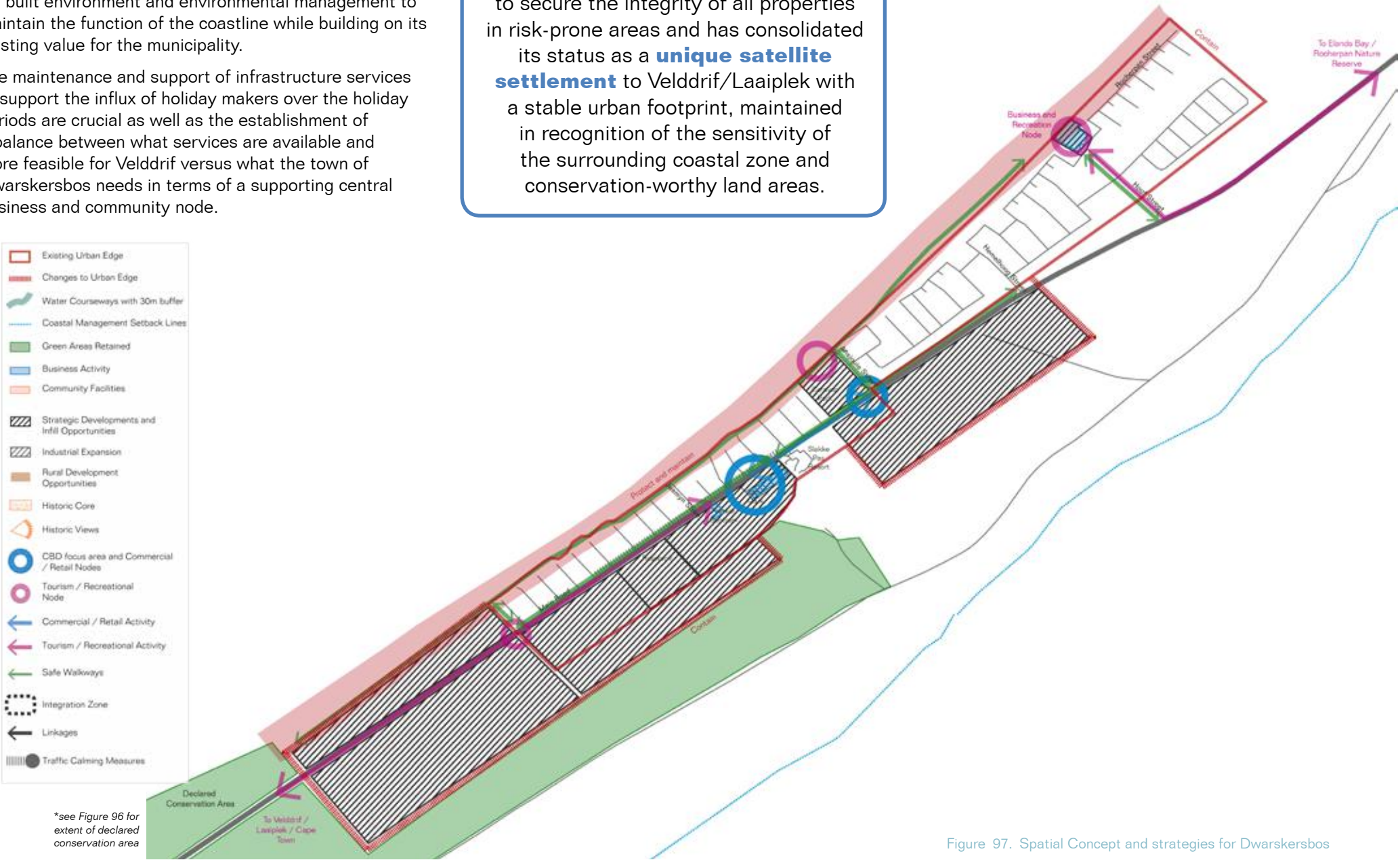


Figure 97. Spatial Concept and strategies for Dwarskersbos

5.5.3. Spatial Strategies

The spatial concept for Dwarskersbos aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 97, is informed by the broader municipal concept and SDF approach, as well as by the IDP's identified priorities, therefore establishing a localised response to the town's status quo towards a collectively envisioned future.

Biophysical

1. Protect the unique visual scenery and sense of place that the coast and coastal road northward provides.
2. Avoid any further similar coastal development, especially linear in nature.

3. Further encroachment of CBA and ESA natural systems should not be permitted.

Socio-Economic

1. Balance the real need versus feasibility of new economic developments in town.
2. Promote retirement opportunities to attract and establish year-round residents to better support commercial / retail.
3. Maintain municipal holiday resort at a high standard at all times to contribute to local tourism.

Built Environment

1. Assess potential impacts from infrastructure and any other development for potential mitigating guidelines in order to retain the town's sense of place.

2. Explore opportunities for expansion into areas of low intensity agricultural activities to the south of the existing town footprint.

5.5.4. Spatial Development Framework

Figure 98 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Dwarskersbos. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 37 and indicated on Figure 98 with accompanying numbers.

Table 37. Top Strategic Priority Projects for Dwarskersbos

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. Boardwalk	Celebrate the coastline with an active boardwalk that has minimal impact on the dunes and creates awareness of the sensitivity of the coast through information boards and displays.	6	A sustainable, inclusive and integrated living environment	Short to Medium	Sustainable design with minimal impact (various examples across the Western Cape)
2. Mixed Use Community Node	Provide diverse and flexible spaces for community services to support permanent residents and also allow for short-term activities during peak seasons. Include a primary school, public square and old age facility.	6	Promote a safe, healthy, educated and integrated community	Medium	Flexible, adaptive designs
3. Coastal Development Management Framework Guidelines and Overlay Zone	Consolidate existing coastal management guidelines and compile a municipal coastal management programme for development in the town as well as a resilient strategy for a sustainable future for the town.	6	To conserve and manage the natural environment and mitigate the impacts of climate change	Long	Provincial support
4. NMT Network	Provide safe, landscaped walkways and routes throughout the town for pedestrians and implement traffic calming measures along the main road to create a more pedestrian friendly environment.	6	A sustainable, inclusive and integrated living environment	Medium	Engage and obtain support from the Provincial Department of Transport and Public Works



5.6. Redelinghuys

5.6.1. Status Quo Informants

Redelinghuys is situated in the picturesque Verlorenvlei valley located halfway en route to the sea from Piketberg. Redelinghuys functions as a residential rural village which provides supporting social infrastructure for the town and the surrounding agricultural areas. The following sections will unpack the key informants relating to the town's biophysical status, socio-economic trends and built environment performance.

5.6.1.1 Biophysical

Redelinghuys, situated in the Sandveld region, is known as the Potato Capital of the Sandveld. It is also the area where Rooibos grows in its natural state. The town is situated on the south bank of the upper reaches of the Verlorenvlei River - providing a unique feature to the town as one crosses the riverbed to enter the town from a northern direction. Verlorenvlei stretches from Redelinghuys 30km north to Elands Bay where it flows into the Atlantic Ocean. It's one of the most important

estuarine systems in the Western Cape home to some 200 bird species. The whole area, with its abundant birdlife, fynbos and flowers, has been declared a RAMSAR site.

The town is surrounded by high biodiversity value Endangered Hopefield Sand Fynbos or an inland Strandveld variant that must be considered of equal conservation value. The area south of town is a proclaimed Contract Nature Reserve supported by the NEMPAA declared CapeNature Stewardship Programme. There are a number of threatened plant species in these conserved and unprotected threatened habitats around town.

Intensive agricultural development is likely to continue to put pressure on groundwater, the important Voelvlei River system, endangered habitats and other identified Critical Biodiversity Areas in the vicinity of Redelinghuys. Recent developments in town also represent undesirable encroachments on important CBA areas.

Bergrivier SDF Environmental and Biodiversity inputs into urban edge and urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018



Figure 99. The surrounding farms and mountains of the Redelinghuys area

Table 38. Redelinghuys overview of demographics, social facilities and housing

STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	600
	POPULATION 2028 (EST. GROWTH @ 2,2%)	751
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	TBC
	ADEQUATE SUPPLY OF FACILITIES	TBC
	PLANNED PROJECTS (WCG UAMPS)	None
HOUSING	HOUSING WAITING LIST (under review)	239
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2018/19 - 20 RDP Sites and Services 2021/22 - 20 RDP Sites and Services

5.6.1.2 Socio-Economic

Redelinghuys functions as a small residential rural village which provides basic supporting social infrastructure for the town and the surrounding agricultural areas. It is served by a police station, a public library, a satellite health clinic, and two primary schools.

Residents in the rural areas surrounding Redelinghuys are identified in the Socio-Economic Index of the Department of Social Development as being relatively worse off than other areas in Bergrivier such that this area was identified as a "Poverty Pocket" in the West Coast Rural Development Plan for Agri-Parks.

References: Bergrivier Municipality Local Economic Development Strategy May 2015

Bergrivier Municipality Fourth Generation IDP 2017 - 2022

5.6.1.3 Built Environment

The town was originally part of the farm Wittedrift, and donated to the church as a gift in the mid 1880's. Construction on the first church commenced in 1866 and in 1873 it was used for the first time. In 1921 a new church was built and was first used for the first time in 1927. The old church bell is still in use.

The urban fabric of the town is characterised by a combination of predominantly Victorian architecture, lower income housing and old worker houses, in unconsolidated development patterns built around the church. A recommended grading for Redelinghuys' Historic Core has been identified by Rigby (2018) as Grade III

Redelinghuys is not serviced with a waterborne sewer system as the town is currently serviced by septic tanks. Servicing Redelinghuys with a waterborne sanitation system has been identified in the 2015 Masterplan and will require the installing of a brand new sewer reticulation system and a new WWTP.

References: Bergrivier Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources



Figure 102. A Victorian style building still in tact



Figure 100. Personalised residential areas with gardens and decorations



Figure 101. Views of the church



Table 39. Status of municipal services for Redelinghuys

Town	Redelinghuys
1. Water Source	Upgrading needed between 2025 and 2035
2. WTW	Upgrading needed between 2025 and 2035
3. WWTW	Septic Tanks
4. Electricity	Upgrading needed between 2025 and 2035
5. Storage	Upgrading needed between 2025 and 2035

Figure 103. Spatial Analysis and Trends - Redelinghuys



Figure 104. New housing on the periphery of town



Figure 105. The Verlorenvlei River framing the northern portion of town

5.6.2. Synthesis

Redelinghuys is known as a quaint and charming village with beautiful scenery, a historic church plenty of Victorian architecture still in tact. Its location in proximity to the attracting Verlorenvlei estuary and its productive surrounding landscapes allow for the potential to sustain the rural settlement and its inhabitants through small scale interventions and a more modest approach to the liveability of the town and its economy, supported by local needs and tourism possibilities.

The urban structure of the town is grounded in a historical grid and should be maintained and consolidated to promote integration, with public spaces or recreational activities as central areas for meeting and celebration of local identity.

The smaller agricultural centres of **Aurora, Redelinghuys and Eendekuil** continue to function as **rural service centres** where focus has been placed on ensuring that communities residing in and around these towns can access a high quality of business support and community services. These towns have also capitalised on their unique settings and have developed **niche-offerings to the tourism market.**



5.6.3. Spatial Strategies

The spatial concept for Redelinghuys aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 106, is informed by the broader municipal concept and SDF approach, as well as by the IDP’s identified priorities, therefore establishing a localised response to the town’s status quo towards a collectively envisioned future.

Biophysical

- 1. Avoid wetland features and drainage lines not appropriate for urban development, both to support river function and to reduce risk to infrastructure in wet and potentially flood prone sites.
- 2. Protect the function of the Verlorenvlei through encouraging stormwater management that improves water quality and creates opportunities to walk down to and engage with the water to improve environmental awareness and promote stewardship.

- 3. Combine restoration of urban green spaces with recreational, functional community parks that can contribute to social integration through shared public green spaces while also enjoyed by visitors.

Socio-Economic

- 1. Invest in the youth through an aftercare centre for learning and skills training.
- 2. Promote investment into or build on existing rural development opportunities that can combine housing as part of small-scale farming opportunities close to town to tackle poverty issues.
- 3. Support local economic development through tourism initiatives.

Built Environment

- 1. Improve pedestrian access through the development of connected safe walkways and sport and recreational activities.
- 2. Protect the valuable heritage resources that characterise the town’s history and urban fabric and promote adaptive re-use of vacant and neglected buildings to celebrate local heritage.

- 3. Support urban agriculture in schools and vacant plots as stewardship projects.
- 4. Support flexibility in considering applications for rezoning where higher order zonings such as Industrial are not required to meet market demands and where such erven may be more beneficially utilised for other land uses compatible with the character of the local area and the nature of existing surrounding land uses.

5.6.4. Spatial Development Framework

Figure 107 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Redelinghuys. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 40 and indicated on Figure 107 with accompanying numbers.

Table 40. Top 5 Strategic Priority Projects for Redelinghuys

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. Cultural Park and Hiking Trail	Develop a Cultural Park to celebrate local heritage and link to a network of walking trails that meander through the town and provide access to local attractions in the vicinity of the town	6	Facilitate an enabling environment for economic growth to alleviate poverty	Medium	Detailed design of Park and Trail network
2. Urban Agriculture and Local Market	A dedicated space where local farmers and urban agricultural gardeners can sell local produce	6	Facilitate an enabling environment for economic growth to alleviate poverty	Short	Planning and funding of market development
3. Farm Worker Housing and Support Initiative	Explore options for unlocking land or build on existing opportunities where land can be divided for small scale farmers with serviced sites for self-build housing opportunities in close proximity or on the periphery of town to create sustainable employment instead of only housing.	6	Develop a programme for food security in conjunction with sector departments and investors	Medium to Long	Partnerships with DRDLR and Provincial Department of Agriculture
4. Heritage Overlay Eco Tourism	Application of an Overlay Zone to preserve and amplify the unique features of the town and preserve its setting in a sensitive and conservation-worthy surrounding environment	6	To develop, manage and regulate the built environment	Short to Medium	Amendment of the Integrated Zoning Scheme By-Law
5. Youth Centre	A centre that can provide access to computers, afterschool activities and skills programmes that can build agency for youth and provide them with technological, social or legal support for future development and employment.	5	Promote a safe, healthy, educated and integrated community	Short to Medium	Partnership with National Rural Youth Service Corps programme and National Youth Development Agency Engagement with Path out of Poverty



5.7. Aurora

5.7.1. Status Quo Informants

Aurora is a rural settlement located in the Sandveld region - renowned for potato production - and functions as a residential settlement that houses mainly farm workers from the surrounding areas, retirees as well as people owning weekend retreat centres in the area. The following sections will unpack the key informants relating to the town’s biophysical status, socio-economic trends and built environment performance.

5.7.1.1 Biophysical

Aurora lies at the foot of the western flank of the Piketberg mountains and is adjacent to a narrow band of remnant lowland Hopefield Sand Fynbos habitat (gazetted as a Vulnerable ecosystem and likely to be identified as Endangered in the current 2018 National Biodiversity Assessment process). The town is also in proximity to the more extensive Piketberg Sandstone Fynbos directly north-east of town - also listed Vulnerable in terms of the number of threatened species within this ecosystem.



Figure 108. The agricultural landscape

Aurora is a popular destination for flower watching during the flower season in Spring and can be viewed on most of the sand roads in and around Aurora.

Similar to the Sandveld, the Aurora coastal belt is employed for mixed farming, with a combination of small stock, strip grain cultivation and centre pivot potato production. Natural veld sensitivity, groundwater sustainability and the high risk of both dry-land cultivation and potato production highlight the requirements as detailed for both extensive dry-land and livestock farming.

Bergrivier SDF Environmental and Biodiversity inputs into urban edgeand urban edge extension proposals. Donovan Kirkwood, version at 17 September 2018

Local Biodiversity Strategies and Action Plan for Bergrivier Municipality, May 2011

5.7.1.2 Socio-Economic

The town functions as a residential settlement that houses mainly farm workers from the surrounding areas, retirees as well as people owning weekend retreat centres in the area. The town’s reputation as a peaceful space in which to retire or escape the city has caught up with it in recent years and properties here now rival other coastal villages close to Cape Town. On the outskirts of the village a couple of newer, larger houses can be found

Table 41. Aurora overview of demographics, social facilities and housing		
STATS	POPULATION 2018 (EST. FROM MYPE + STATSSA)	667
	POPULATION 2028 (EST. GROWTH @ 2,2%)	835
SOCIAL FACILITIES	CURRENT UNDER SUPPLY OF FACILITIES	TBC
	ADEQUATE SUPPLY OF FACILITIES	TBC
	PLANNED PROJECTS (WCG UAMPS)	None
HOUSING	HOUSING WAITING LIST (under review)	66
	PLANNED HOUSING (Infrastructure Pipeline Feb 2017)	2019/20 - 20 RDP Sites and Services 2022/23 - 20 RDP Sites and Services



Figure 109. Flowers in season

to serve this need. With potential for adventure tourism, including horse riding, 4x4 routes, motor biking and mountain biking, there is opportunity for local economic development. However, due to the lack of basic services such as medical services, and a lack of employment opportunities, local residents tend to relocate.

References: Bergvriër Municipality Local Economic Development Strategy May 2015

Bergvriër Municipality Fourth Generation IDP 2017 - 2022

5.7.1.3 Built Environment

Named after Ceylonia Aurora Perreira, the daughter of the first Dutch Reformed minister in the area, Aurora has an interesting history. It was here that the French astronomer-geodesist, Abbé Nicolas de la Caille set up an observatory where his findings in 1751 concluded that the world was pear-shaped, a result that had the astronomical world in a tail spin for decades whilst they tried to prove otherwise. The town was established as a church settlement in 1906 and is today still set around the central square hosting the Dutch Reformed church and park. It is of high heritage value in terms of its surviving distinct settlement qualities and surviving historic fabric as well as its association with early astronomical research. The nearby Arc of Meridian beacon is a Provincial Heritage Site, and according to Rigby (2018) the recommended grading for Aurora's Historic Core is Grade III.

Although set in a beautiful landscape, the town is fairly isolated with a general lack of basic services. Various vacant erven characterise the town's urban form, while also providing opportunities for infill residential development rather than extension. There is however no immediate need to provide for additional housing in Aurora as any existing waiting list for subsidised housing should be accommodated in the larger towns of Piketberg, Velddrif and Porterville.

Aurora is also not serviced with a waterborne sewer system as the town is currently serviced by septic tanks. Servicing Aurora with a waterborne sanitation system was included in the 2015 sewer masterplan and will require the installing of a brand new sewer reticulation system and a new WWTP.



Figure 110. Retail activity in Aurora



Figure 111. The rural character of the town

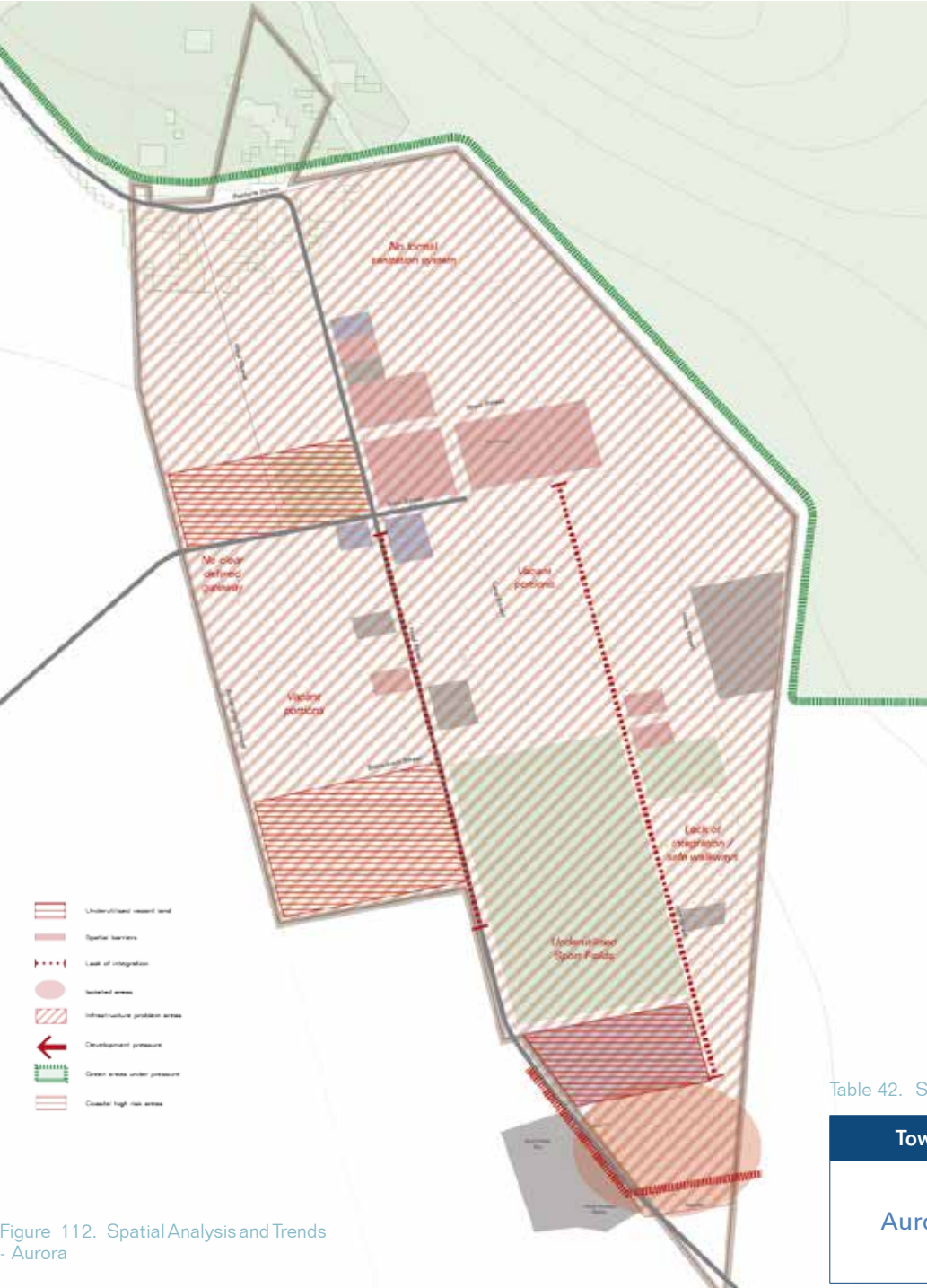


Figure 112. Spatial Analysis and Trends - Aurora



Figure 113. The main entrance into town and the grid structure of the streets



Figure 114. Lower income housing on the southern periphery of town

Table 42. Status of municipal services for Aurora

Town	Water Source	WTW	WWTW	Electricity	Storage
Aurora	Upgrading needed between 2020 and 2025	Upgrading needed between 2020 and 2025	Septic Tanks	Upgrading needed between 2020 and 2025	Upgrading needed between 2025 and 2035

References: Bergvliet Municipality Infrastructure and Housing Pipeline Report November 2016

Ursula Rigby (2018) Heritage Resources Draft Baseline Status Quo Study: A Baseline Review and Gap Analysis of Cultural Scenic, Landscape and Built Environment Resources

5.7.2. Synthesis

Aurora has gained popularity due to its calming environment and ideal location for retirement and city escapes. The beautiful scenery, interesting history and its location in proximity to surrounding regional attractions allow for the potential to sustain this unique rural settlement and its inhabitants through small scale interventions that is supported by tourism while supporting existing local needs.

The urban structure of the town is grounded in a historical grid and should be maintained and consolidated to promote integration, with public spaces or recreational activities as central areas for meeting and celebration of local identity.

The smaller agricultural centres of **Aurora, Redelinghuys and Eendekuil** continue to function as **rural service centres** where focus has been placed on ensuring that communities residing in and around these towns can access a high quality of business support and community services. These towns have also capitalised on their unique settings and have developed **niche-offerings to the tourism market**.

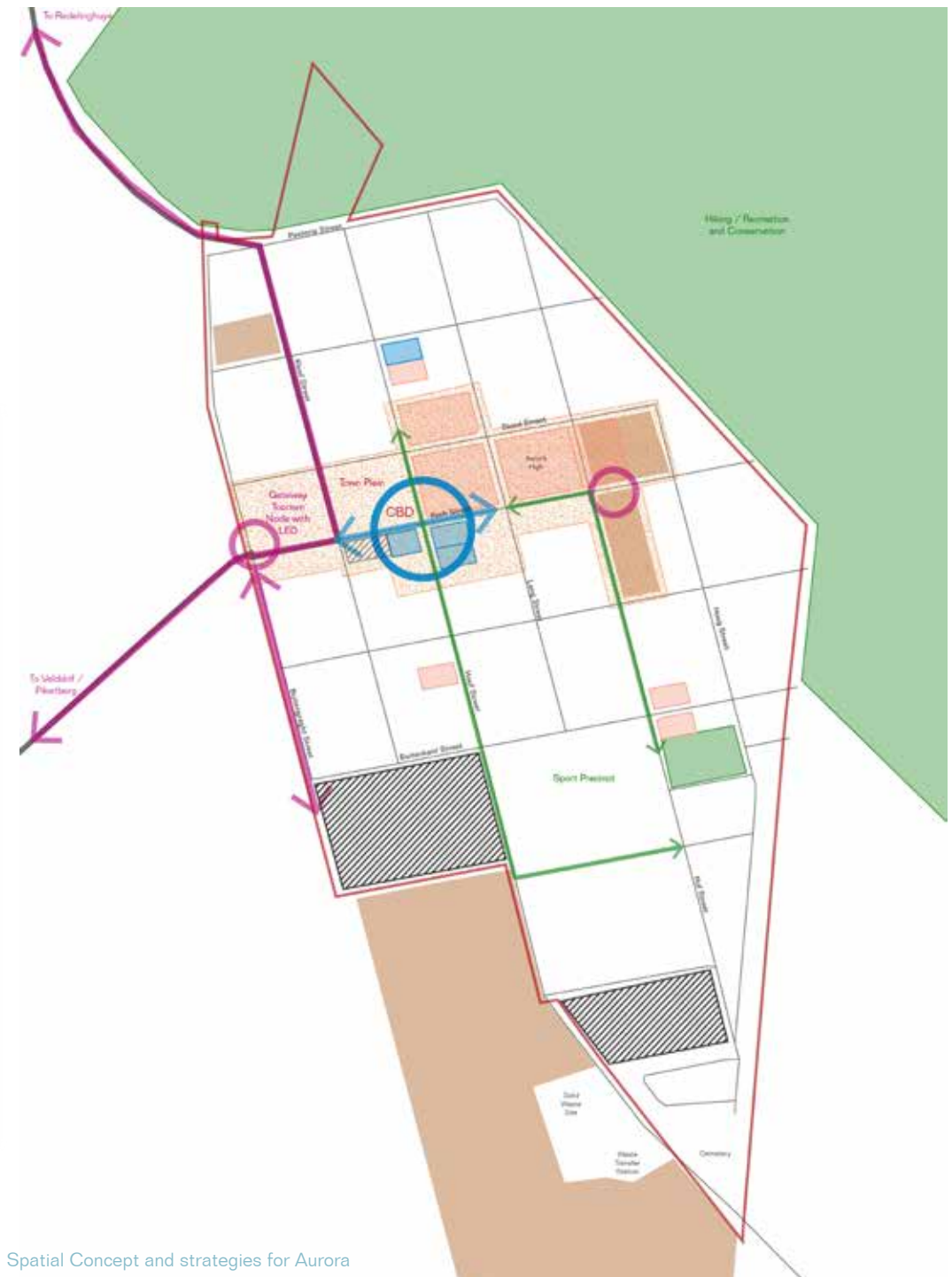
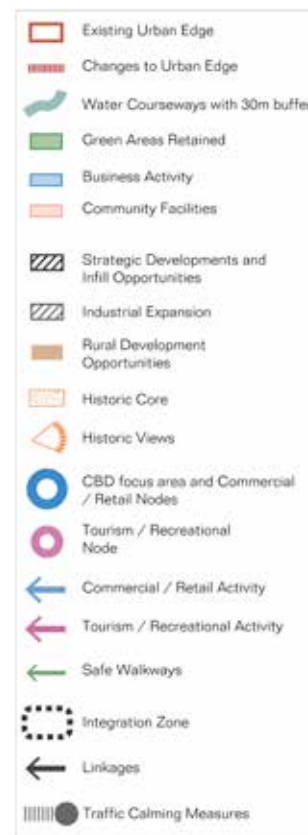


Figure 115. Spatial Concept and strategies for Aurora

5.7.3. Spatial Strategies

The spatial concept for Aurora aims to unpack the longer term vision for the town into key strategic responses relating to the issues and opportunities highlighted in the analysis synthesis. This spatial strategy, illustrated conceptually in Figure 115, is informed by the broader municipal concept and SDF approach, as well as by the IDP’s identified priorities, therefore establishing a localised response to the town’s status quo towards a collectively envisioned future.

Biophysical

- 1. Avoid encroachment into vulnerable and/or endangered vegetation areas to protect the biodiversity functions of these ecosystems.
- 2. Encourage functional open spaces that can contribute to social integration through shared public green spaces while also enjoyed by visitors.

Socio-Economic

- 1. Reinforce the town’s centre through diversified economic activities and multi-purpose community services.
- 2. Promote rural development opportunities that can combine housing as part of small-scale farming opportunities close to town to tackle poverty issues.
- 3. Support local economic development through tourism initiatives and reinforce gateways and tourism routes to build on existing attractions.

Built Environment

- 1. Improve pedestrian access through the development of connected safe walkways to promote spatial integration.
- 2. Protect the valuable heritage resources that characterise the town’s history and urban fabric and promote adaptive re-use of vacant and neglected buildings to celebrate local heritage.

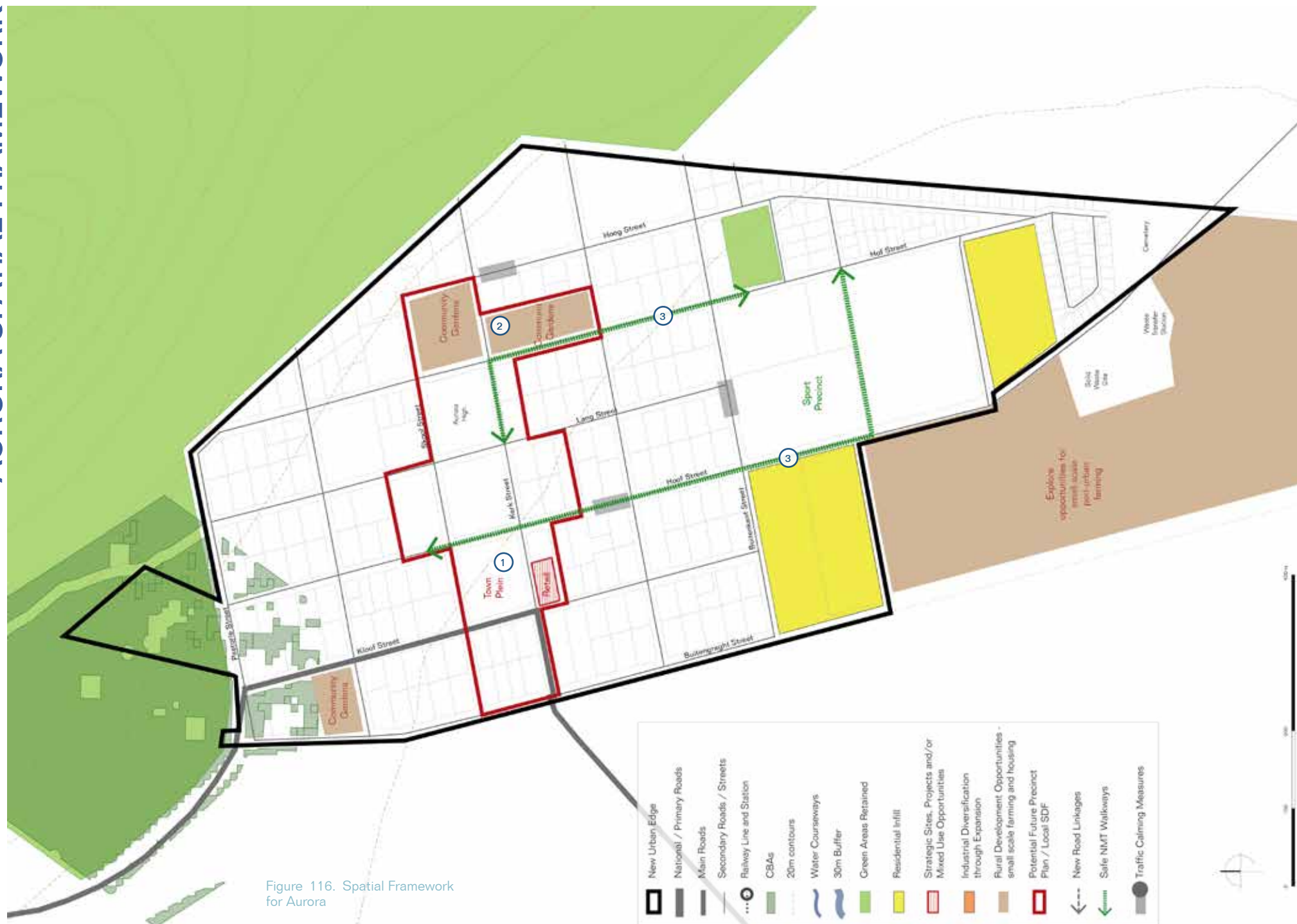
- 3. Support urban agriculture in schools and vacant plots as stewardship projects.

5.7.4. Spatial Development Framework

Figure 116 translates the strategies set out above into a spatial development framework for the town to guide future land use management and development prioritisation within the urban area of Auora. The map indicates land for future housing or infill developments, mixed use and/or commercial opportunity sites, strategic walkways and other spatial implementation priorities and projects. The framework and its associated strategic priorities are unpacked in Table 43 and indicated on Figure 116 with accompanying numbers.

Table 43. Top Strategic Priority Projects for Aurora

Priority Project Title	Description	Relevant Ward	Linkages to IDP	Timeframe	Preconditions
1. Market Square	Upgrade the town plein area with landscaping and public seating, as well as a dedicated space where local farmers and urban agricultural gardens can sell local produce.	6	Facilitate an enabling environment for economic growth to alleviate poverty	Short to Medium	Planning and funding of plein upgrades and market development
2. Community Gardens	Support community gardens through youth programmes or school activities.	6	Develop and implement a Youth programme	Short	Partnership with Provincial Department of Agriculture and NGOs
3. NMT Safe Walkways	Provide safe, landscaped walkways and routes throughout the town for pedestrians and implement traffic calming measures along the main road to create a more pedestrian friendly environment.	6	To promote a safe environment for all	Medium to Long	Project Funding allocation



6.

Implementation Framework



6. Implementation Framework

The principal function of the MSDF in relation to the planning and implementation of spatial development and land use management in the Bergrivier Municipal area is seen to apply at four levels: -

- The most important use of the MSDF is to feed into the IDP planning processes of the Municipality. In other words, one of the MSDF's key functions in relation to development implementation is to act as a guide to decision making relating to the location and nature of capital projects and the allocation of resources across the Municipal area, as set out in the IDP and the Medium-Term Expenditure Framework;
- The MSDF also serves to highlight certain project actions that are deemed to be relevant and/or significant in the spatial planning and land use management sphere;
- The MSDF refers to currently applicable Guidelines in relation to spatial planning and land use management; and
- The MSDF may be used to identify the need for further policies or by-laws required to facilitate the desired spatial development outcomes of the MSDF.

NOTE: This DRAFT Implementation Framework will be extended and refined in further iteration of the document. At the time of writing, IDP project lists had not been finalised and a possible amendment to the Housing Programme was subject to Council approval. Therefore, a more complete Capital Expenditure Framework and associated spatial map will be formulated, in due course.

6.1. Policies, Strategies and By Laws

The following tables set out current Policies, Strategies and/or By Laws at provincial and municipal scale applicable to spatial planning and land use management.

Table 44. Key Provincial policies and guidelines

Relevant Policy / Guidelines	Key Aspects	Link to Municipal SDF
Coastal Management/ Set-back Lines for the West Coast District (DEA&DP, 2014)	The document identifies High, Medium and Low Coastal Risk Zones and a Coastal Management/Set-back Line based on an applied modelling methodology and proposes broad coastal management controls. The document envisages some possible ways and means of incorporating more clearly defined management controls through the use of Overlay Zones in a Land Use Scheme, the formulation of Coastal Protection By Law, or the development of a specific Coastal Planning Scheme in terms of the National Environmental Management: Integrated Coastal Management Act.	The identified Coastal Management Lines for the Bergrivier municipal area are incorporated into the Municipal SDF and provide guidance to define the limits to permissible land developments in affected areas.
Draft Rural Land Use Planning and Management Guidelines (DEA&DP, 2018)	While this remains a draft document, it sets out a methodology of delineating Spatial Planning Categories (SPCs) based on the categorisation of Critical Biodiversity Areas (CBAs) as set out in the Western Cape Biodiversity Spatial Plan (2017) and then provides Guidelines on Land Use and Activities per SPC. In addition, the document provides Guidelines for managing rural land use change in various instances of usage, provides suggested criteria for the assessment of Development Applications, and addresses sustainable agriculture and provides norms for the subdivision of agricultural land in the Western Cape.	As the SPC approach has been adopted in the Bergrivier MSDF, the related SPC Guidelines on Land Use and Activities per SPC are referenced in Section 6.3. In general, once approved, it is advocated that the Bergrivier Municipality's evaluation of applications for land use amendments and/or land development in applicable areas be guided by the criteria contained in the Rural Land Use Planning and Management Guidelines.
Heritage and Scenic Resources: Inventory and Policy Framework (DEA&DP, 2013)	Based on the National Heritage Resources Act (NHRA), the document provides a guide for the identification and conservation of cultural heritage and scenic resources and also sets out guidelines for carrying out local heritage management responsibilities as specified in the NHRA, as well as the phasing and preparation of municipal heritage inventories and the implementation of local heritage protection measures through the application of restrictive zonings or the use of Overlay Zones in Land Use Schemes.	The Policy Framework has informed the work done on heritage in the Municipal SDF and also provides the platform for the proposals set out in Chapter 6 in relation to the Heritage Compliance Projects.
Western Cape Biodiversity Spatial Plan (DEA&DP, CapeNature, SANBI, 2017)	The Biodiversity Spatial Plan aims to (i) Protect the natural ecological infrastructure of functional landscapes, and provide for land-use planning that allows the functional persistence of all components of biodiversity from ecosystems to species; (ii) Protect natural and functional ecological infrastructure that provides the services on which society depends (e.g. water delivery and quality); and (iii) Establishes Principles that require a high level of compliance to with spatial recommendations. To achieve the above, the Plan identifies CBA's and ESAs in order to provide spatial locations where the loss or destruction of natural processes would put people and built infrastructure at risk, for e.g. from drought, fire and flood, especially in the face of more unpredictable and extreme events that are already resulting from global climate change. The spatial configuration of CBAs and ESAs aims to avoid placing limitations on known productive landscapes wherever possible	The WCBSP has been used as a primary informant for the compilation of the Bergrivier Municipal SDF and is also taken as the data source for the identification of the Spatial Planning Categories (SPCs) illustrated in the overall Municipal SDF map. In turn, the SPCs provide the spatial definition for the application land use management guidelines and preferred land use outcomes that are in keeping with the overall goal of managing land use wisely and ensuring sustainability of use of scarce and vulnerable natural resources.

Table 45. Key Municipal policies and guidelines

Relevant Policy / By Law	Key Aspects	Link to Municipal SDF
Municipal Land Use Planning	<p>This By-Law is foundational to how the Municipality manages its functions, roles and responsibilities in relation to the spatial planning and land use management system brought into being by SPLUMA.</p> <p>It thus deals with aspects related to Spatial Planning (the compilation of the Municipal and also Local SDFs), Development Management (the processes and instruments relevant to the management of land use and the zoning of land parcels), the procedures required to make application for changes to zonings and/or land use rights and a number of related administrative matters related thereto, including the provision for the creation of Overlay Zones to permit additional land development parameters to be made applicable to specific land areas.</p>	The Bergrivier By-Law on Municipal Land Use Planning has guided the process that was followed to compile the Municipal SDF.
Integrated Zoning Scheme	<p>The Integrated Zoning Scheme By-Law regulates and controls the content and scope of provisions related to the zoning of land and the regulation of land use in terms of such zonings (development parameters). It provides for a range of land use Zones (including Overlay Zones) and definitions for key terms used in the description of activities permitted in different land use Zones.</p>	<p>The Bergrivier Integrated Zoning Scheme is the instrument that enable the Bergrivier Municipality to manage land use in accordance with applicable zonings of land parcels.</p> <p>In certain instances, the Municipal SDF may create the space for applications for amendments to the Zoning Scheme to be brought. The SDF also provides the framework to guide the Municipality and the Municipal Planning Tribunal in decision-making around land use matters.</p>
Advertising and Signage	<p>The By-Law is intended to regulate how advertising and signage is erected and/or placed within the urban and rural contexts of the municipal area and is premised on the need to protect and conserve the environmental quality of both the natural environment as well as the character of the built environments found in Bergrivier.</p> <p>The By-Law is explicit in seeking to “strike a balance between advertising opportunities and economic development on the one hand, and the conservation of visual-, tourist-, environmental- and heritage characteristics and traffic safety on the other hand” and further seeks to “ensure that advertising respects the integrity of any site on which it is displayed, and complements the character of the locality in which it is displayed”.</p>	This By-Law harmonises with the Municipal SDF in attempting to create the legal framework to manage the erection and display of advertising materials and signage in the municipal area such that a balance is achieved between the retention of key character-giving elements such as sense of place, heritage and environmental quality with the requirements of commerce and economic development for the greater social good.
Cemeteries and Crematoria	<p>The Cemeteries and Crematoria By-Law is intended to “make provision for the allocation of land for the purposes of the burial of human remains, to develop and maintain existing cemeteries, to permit its residents to dispose of a corpse by cremation, burial or any other approved method and to provide space allowing the preservation of the remains of a cremation in a dignified manner”.</p> <p>Chapter 1 of the By-Law deals with the establishment of cemeteries but does not provide minimum standards in this regard. In contrast, Chapter 5 of the Regulations Relating to the Management of Human Remains (Regulation No. R. 363 made in terms of the National Health Act 61 of 2003 and issued on 22 May 2013) sets minimum environmental requirements for all burial sites.</p>	Insofar as this By-Law does not address directly the minimum environmental requirements for the establishment of burial sites/cemeteries, the Municipal SDF proposes that the Municipality should develop a formal Policy to formulate a strategic approach to that question in order to comply with applicable national Regulations in a manner that is understood and accepted by the communities residing in Bergrivier.

Relevant Policy / By Law	Key Aspects	Link to Municipal SDF
Commonage	<p>The Commonage By-Law provides the “use and management of the commonage in the interests of the community of Bergrivier Municipality” and seeks to “ensure the sustainable utilisation of the agricultural potential thereof and to protect the infrastructure and resources thereon”.</p> <p>In so doing, the By-Law deals with issues ranging from the establishment of grazing camps on municipal commonage to the institutional arrangements and the requirement for the municipality to develop a Commonage Management Plan as part of its IDP.</p>	<p>The Municipal SDF endorses the need to make use of available commonage land that is suitable for the use and developmental needs of the communities resident in the towns in Bergrivier.</p> <p>In order to achieve this to best effect, the Municipal SDF proposes the development of a municipal Commonage Management Plan.</p>
Electricity	<p>Of relevance to SPLUM in the Electricity By-Law are the sections 8 and 9, which deal with Way Leaves and statutory servitudes in relation to portions of land where electricity services are/are to be laid.</p>	<p>This By-Law deals with the details of how the Municipality manages issues related to land needed for the delivery of electricity services to the communities of Bergrivier. It is in accordance with the objectives of the Municipal SDF.</p>
Fences and Walls	<p>Premised on its function to secure a safe and healthy environment for its residents, the Bergrivier Municipality promulgated this By-Law to regulate the aesthetic impact and the manner in which fences (including electrical fences) and walls may be erected within the urban areas under its jurisdiction. The By-Law does not apply to fences and walls outside the urban areas save for fences and/or walls erected at the interface of an urban settlement and neighbouring rural/agricultural land holdings.</p>	<p>This By-Law is in keeping with the spirit of the Municipal SDF insofar as it seeks to maintain and enhance the aesthetic qualities of the urban settlements in Bergrivier.</p> <p>Such an outcomes is seen to be important in ensuring the preservation of the unique characters and sense of place of the various settlements, which form the basis for their attractiveness both as places of residence and enterprise as well as for tourism activities.</p>

Table 47. Key Municipal policies and guidelines

Relevant Policy / By Law	Key Aspects	Link to Municipal SDF
House Shops	<p>This Policy regulates the approval of house shops in residential areas and sets out principles related to supply and demand, compatibility of the house shop activity with neighbouring land uses, and certain locational criteria related to accessibility of such enterprises.</p> <p>The Policy also provides for the application of limitations to the scope of trading and minimum requirements for the approval of house shops and allows for the withdrawal of permission under certain circumstances, and limits the liability of the Municipality in regard to the consequences that may arise from the operation of an approved house shop.</p>	<p>This Policy provides the basis for the Municipality to manage informal trading activities in residential neighbourhoods and is in harmony with the Municipal SDF in emphasising the importance of enabling a varied and rich mix of land uses within settlements that is nevertheless not destructive of the amenity and/or general character of a local area.</p>
Informal Trading	<p>The Informal Trading By-Law recognises the need of residents to be able to participate in economic activity where such residents may not be in a position to pursue a formal enterprise in a formal setting or building and seeks to regulate such activity, in particular its impact on the maintenance of a clean, healthy and safe environment, which is a key Municipal function.</p>	<p>As with the House Shop Policy, this By-Law is in harmony with the Municipal SDF in emphasising the importance of enabling a varied and rich mix of land uses within settlements that is not destructive of the amenity and/or general character of a local area but that provides the widest possible range of residents with opportunities for socio-economic development.</p>
Roads and Streets	<p>In the interests of securing a safe and healthy environment, the By-Law sets out provisions related to the Municipality’s responsibility to control and manage the integrity of the roads and streets under its jurisdiction and deals with restrictions on alterations and/or intrusions into roadways and public sidewalks as well as prohibitions on certain activities taking place in roads or streets that impinge on their functionality and/or the safety and security of road users.</p>	<p>The Roads and Streets By-Law is focused on the roadways under the jurisdiction of the Bergrivier Municipality but relates positively to the objectives of the Municipal SDF insofar as it serves to ensure a safe road and pedestrian pathway network and thus promote ease of access within the towns and smaller settlements in the area.</p>

6.2. Enabling Projects for Spatial Development and Land Use Management

The following tables list the Key Projects that have been identified:

Table 48. Local Planning Projects

Project	Project Description/Objectives	Responsible Agent/s	Time Frames	Estimated Funding Requirement
1. Piketberg Gateway and Central Integration Zone Precinct Plan	<p>The project focus would be on:</p> <ul style="list-style-type: none"> The sustained implementation and expansion of the RSEP Programme within the Integration Zone along Church Street. Formulation of a land use management and urban design framework for the CBD Precinct, with mechanisms to be identified to support local business development, informal trading and mixed land use and residential densification development opportunities in the study area. 	<p>Project Funding: Bergrivier Municipality DEA&DP RSEP</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 - June 2021	R900 000
2. Porterville CBD Precinct Plan Implementation	<p>Using the approved Precinct Plan as a base, this project intervention is identified to focus on:</p> <ul style="list-style-type: none"> The Re-Development of Spruitjie Park in order to plan and develop the open space between Park Street and Monte Bertha into a formal park for both active and passive recreational opportunities to encourage social interaction and promote an enjoyment of and connection with nature. Plan and develop safe walkways and new pedestrian connections to link Monte Bertha to Porterville 	<p>Project Funding: Bergrivier Municipality DEA&DP RSEP</p> <p>Project Responsibility: Bergrivier Municipality</p>	<p>July 2019 – June 2022</p> <p>July 2019 – June 2021</p>	To be determined
3. Velddrif/Laaiplek Precinct Plan Implementation	<p>Using the approved Precinct Plan as a base, this project intervention is identified to focus on:</p> <ul style="list-style-type: none"> Landscaping and beautification of open space on corner of Voortrekker road and R27 to develop a public square as a Gateway/Entrance to Velddrif. Provide seating, pedestrian walkway and spaces for stalls with commercial activity opening up onto the central square. 	<p>Project Funding: Bergrivier Municipality DEA&DP TBC</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 – June 2024	<p>Applying for funding from DTI</p> <p>Final amount is subject to tendered prices</p>

Table 49. Local Planning Projects

Project	Project Description/Objectives	Responsible Agent/s	Time Frames	Estimated Funding Requirement
4. Aurora Market Square Revitalisation Plan	<p>In order to provide a community space and a focus for interaction between local residents and other communities and visitors, the focus of this project would be:</p> <ul style="list-style-type: none"> Plan and implement the upgrade of the town square ("Plein") to provide landscaping, public seating areas and an open-air market facility where local farmers and community gardeners can sell their produce on a regular basis. 	<p>Project Funding: Bergrivier Municipality DRDLR DEDAT TBC</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 - June 2022	<p>R350 000 for planning and community participation</p> <p>Implementation costs subject to Plan proposals</p>
5. Eendekuil Cultural Park	<p>In order to provide a community space and a focus for interaction for local residents the aim of this project would be:</p> <ul style="list-style-type: none"> To develop the watercourse and associated central open space into a themed Cultural Park, with both active and passive recreational opportunities such as hiking, play areas, performance areas and sites for picnicking to encourage social interaction amongst members of the community, and to encourage an enjoyment and appreciation of the connection with nature. 	<p>Project Funding: Bergrivier Municipality DRDLR DEDAT TBC</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 - June 2022	<p>R350 000 for planning and community participation</p> <p>Implementation costs subject to Plan proposals</p>
6. Redelinghuys Cultural Park and Hiking Trail	<p>As is the case in Eendekuil, this project is conceived as follows:</p> <ul style="list-style-type: none"> To develop a local wetland area and associated central open space into a themed Cultural Park, with both active and passive recreational opportunities such as play areas, performance areas and, where suitable, sites for picnicking, to encourage social interaction amongst members of the community, and to encourage an enjoyment and appreciation of the connection with nature. Associated with this Cultural Park space is a local hiking trail that provides a scenic walk through the town and to local areas of scenic and cultural interest. 	<p>Project Funding: Bergrivier Municipality DRDLR DEDAT TBC</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 - June 2022	<p>R350 000 for planning and community participation</p> <p>Implementation costs subject to Plan proposals</p>

Table 50. Heritage Compliance Projects

Project	Project Description/Objectives	Responsible Agent/s	Time Frames	Estimated Funding Requirement
1. Compile Inventories of Heritage Resources and Conservation Areas in the Bergrivier Municipal Area and Establish Criteria for assessing Significance and Gradings of these	<p>While an approved inventory is not a requirement for the Municipality's competence to be deemed in terms of the NHRA, it is self-evident that a comprehensive inventory and a number of delineated conservation areas with clear criteria of significance and grading must be articulated; and all heritage resources and conservation areas must be identified and mapped.</p> <p>NOTE that for each town, the proposed heritage survey areas have been identified to direct the heritage inventory process - see maps in section 6.4.</p>	<p>Project Funding: Bergrivier Municipality DEA&DP</p> <p>Project Responsibility: Bergrivier Municipality</p>	July 2019 - June 2021	R650 000

Once the above project has been implemented and the base Inventories are in place, additional steps are to be followed as set out below in Figure 117. This will enable the Bergrivier Municipality to establish competency and to manage the National Heritage Resources Act through its Municipal Land Use Planning By-Law.

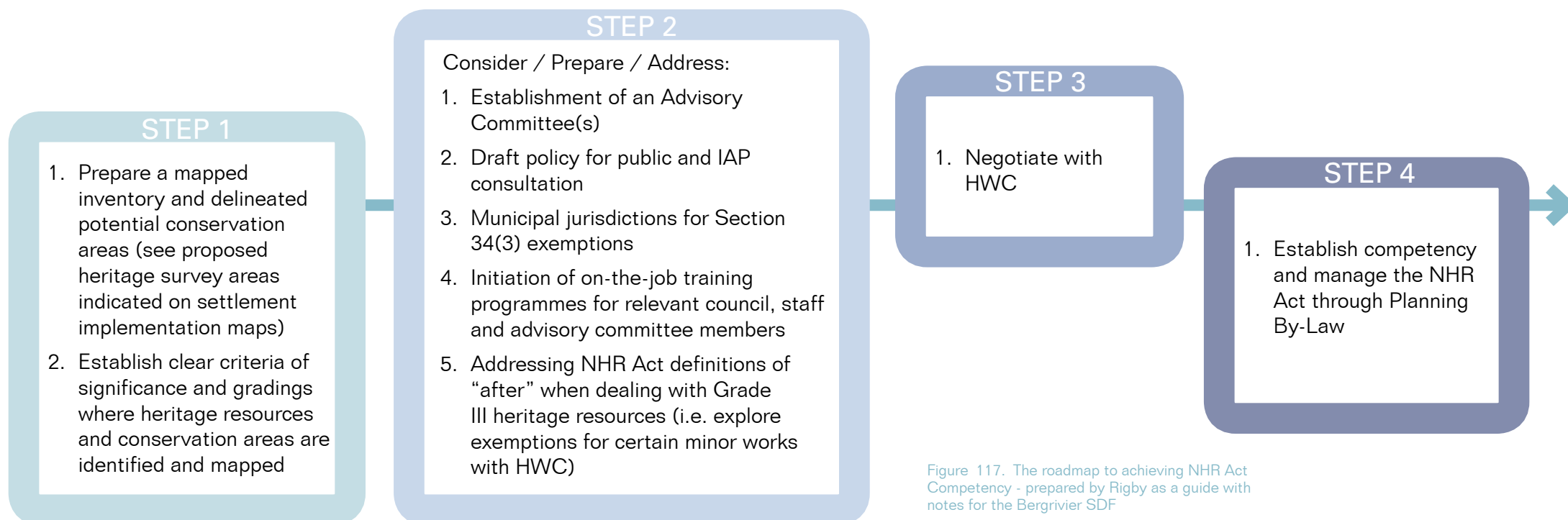


Figure 117. The roadmap to achieving NHR Act Competency - prepared by Rigby as a guide with notes for the Bergrivier SDF

Table 51. Land Use Management Projects

Project	Project Description/Objectives	Responsible Agent/s	Time Frames	Estimated Funding Requirement
1. Coastal Protection By Law	Given the sensitivity of the Bergrivier Municipality's coastline, it is proposed that a Coastal Protection By-Law be drafted to provide clearer provisions for the protection and management of the coastal zone, as defined in the National Environmental Management: Integrated Coastal Management Amendment Act (Act 36 of 2014), as envisaged in the report on Coastal Management/Set-back Lines for the West Coast District.	Project Funding: Bergrivier Municipality DEA&DP Project Responsibility: Bergrivier Municipality DEA&DP	July 2019 - June 2021	R550 000
2. Policy to Guide the Formulation of Overlay Zones	Develop Policy to Guide the Formulation of Overlay Zones to manage: <ul style="list-style-type: none"> Integration Zones approved in terms of the MSDF Heritage Resources as identified in the Heritage Inventory Critical Biodiversity Areas Site and Service Housing Developments The objective of the Policy would be to enable the Municipality to refine its approach to land use management in the above situations in order to better be able to facilitate appropriate forms of development and/or discourage land use activities that would conflict with the intended land use outcomes for such areas.	Project Funding: Bergrivier Municipality DEA&DP Project Responsibility: Bergrivier Municipality	July 2020 - June 2021	R250 000
3. Policy to Guide the Location and Establishment of New Cemeteries	Develop Policy to provide a strategic approach to the identification of suitable sites for the development of new cemeteries where these may be required in future. The policy should provide clarity and direction on issues including: <ul style="list-style-type: none"> Alignment with the Regulations Relating to the Management of Human Remains (Regulation No. R. 363 made in terms of the National Health Act 61 of 2003) on the minimum environmental requirements for cemeteries; The development of local cemeteries versus the merits of developing larger-scale cemeteries to serve multiple communities at a sub-regional scale; Minimum standards applicable to the treatment of human remains and ensuring environmental health outcomes; Education and the use of alternative forms of internment; 	Project Funding: Bergrivier Municipality DEA&DP Project Responsibility: Bergrivier Municipality	July 2020 - June 2021	R350 000
4. Spatially-enabled Integrated Land and Asset Management Application	The objective would be to develop (or acquire) an application that could provide a central, spatially enabled data server that could integrate property data (e.g. valuation roll) with Zoning Scheme data and Scheme Register as well as link to the Housing Pipeline and to the IDP and Budget Capital Expenditure Framework.	Project Funding: Bergrivier Municipality DEA&DP Project Responsibility: Bergrivier Municipality	July 2020 - June 2024	R1 500 000

Table 52. Land Reform Projects

Project	Project Description/Objectives	Responsible Agent/s	Time Frames	Estimated Funding Requirement
1. Facilitate Moravian Church Tenure Reform	The objective of this project intervention would be for the Municipality to engage with DRDLR and the Moravian Church of SA as well as the communities of Goedverwacht, Wittewater and Genadenberg to seek a way forward toward implementing the provisions of the Genadendal Accord which, it is understood, provides for a process of engagements that could lead to the clarification of tenure and land rights arrangements within the land areas owned by the Moravian Church.	Project Funding: DRDLR Project Responsibility: DRDLR MCiSA Bergrivier Municipality	July 2019 – June 2023	Operational
2. Facilitate Revitalisation of Land Reform Project in Redelinghuys	<p>It is understood that a land reform project aimed at emerging farmers was implemented on Portion 10 of the farm Wittedrift No. 4 which requires intervention and support in order to revitalise the project.</p> <p>While this is seen to be a competency of the DRDLR, it is proposed that the Municipality could facilitate this process</p>	Project Funding: DRDLR Project Responsibility: DRDLR Bergrivier Municipality	July 2019 - June 2021	Operational
3. Formulation of a Commonage Management Plan	In order to comply with the provisions of the Municipal By-Law on Commonages, a Commonage Management Plan should be drawn up to guide how commonage that is leased to lessees should be managed and to identify the range and limitations of land use to be permitted.	Project Funding: DRDLR Bergrivier Municipality Project Responsibility: DRDLR Bergrivier Municipality	July 2019 – June 2020	R400 000

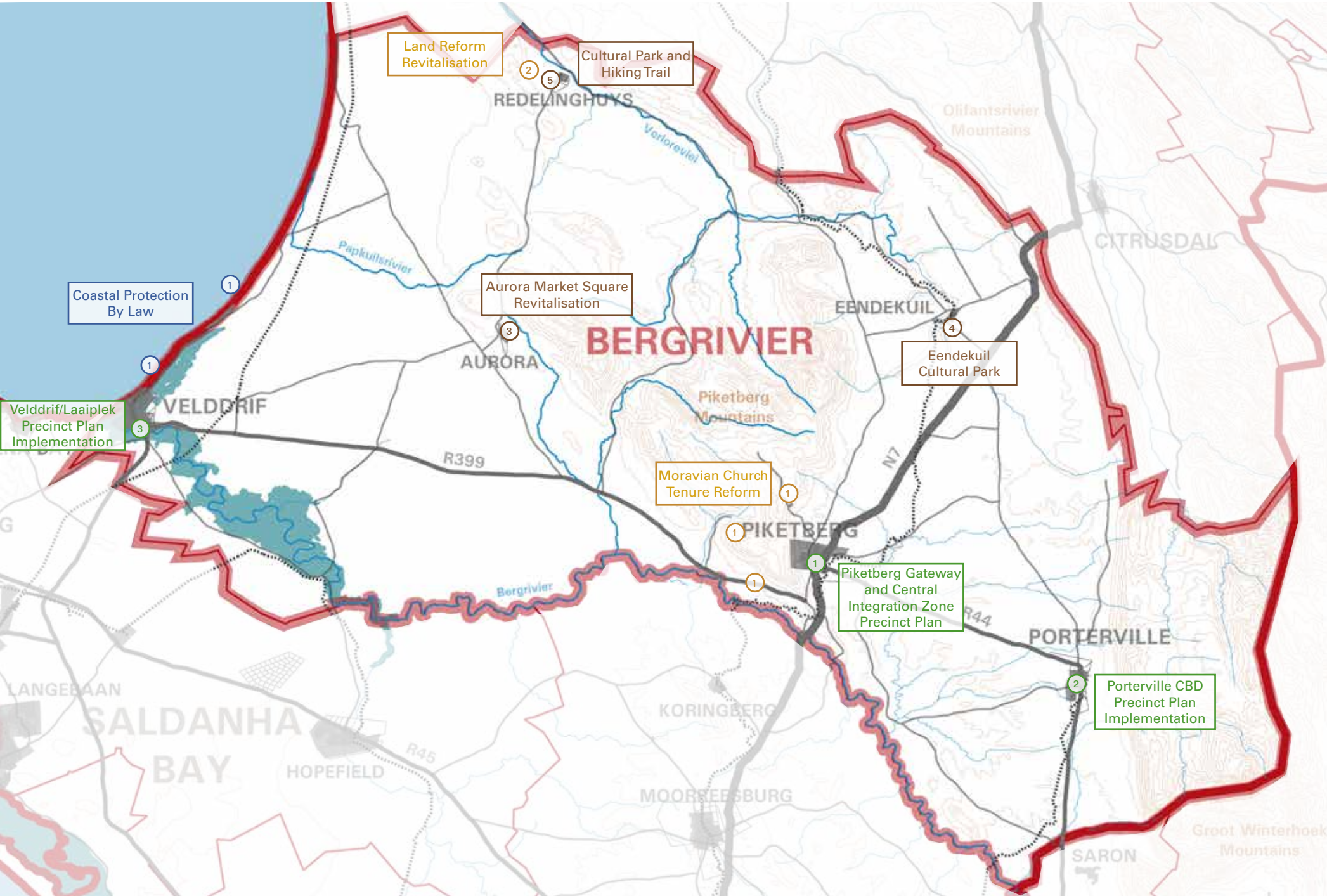


Figure 118. Spatial allocation of key enabling projects for Spatial Development and Land Use Management

6.3. Guidelines

6.3.1. Land Use Management Guidelines

The WCBSP, 2017, highlights that SDFs indicate desired patterns of land use and provide strategic guidance for the location and nature of development and conservation. In this regard, the WCBSP provides that SDFs should divide the entire municipal landscape into spatial planning categories (SPCs) “to reflect a vision of how the area should develop spatially, so as to ensure sustainability”. The SDF also provides policies, management objectives and guidance for appropriate land use within each SPC. From a biodiversity perspective, SPCs indicate areas where limitations on land use need to be applied in order to protect biodiversity. The two SPCs most relevant to biodiversity conservation and the BSP Map are those referred to as “Core” and “Buffer”. The following Guidelines are put forward, accordingly:

Table 53. Spatial Planning Categories and Land Use Management Guidelines

SPC	Biodiversity Plan Category	Key Land Use Outcomes	Indicative Compatible Land Uses
CORE 1a	Protected Areas	<ul style="list-style-type: none"> PAs must be kept in a natural state and be administered by a Management Authority in terms of an approved Management Plan 	<ul style="list-style-type: none"> Conservation and associated activities (e.g. eco-tourism operations) and required support infrastructure as permitted in an approved Management Plan.
CORE 1b	CBA 1 Irreplaceable Terrestrial and Forestry Areas (for meeting biodiversity conservation targets)	<ul style="list-style-type: none"> Core 1b areas should be maintained in a natural or near-natural state, with no further loss of natural habitat; Degraded areas should be rehabilitated Only low-impact, biodiversity-sensitive land uses are appropriate 	<ul style="list-style-type: none"> Conservation management and associated activities, including alien clearing, research and environmental education; If existing farming operations are located in Core 1b areas, these should be limited to current extent of operations and should ideally be subject to appropriate management and land care to ensure lower than maximum grazing ratios and resting cycles are adhered to as defined in relation to the sustainable carrying capacity of the habitat type and other site sensitivities Non-consumptive, low impact eco-tourism (e.g. hiking trails, bird watching and low-impact tourism accommodation); Extensive game farming and eco-tourism operations with strict control on environmental impacts and carrying capacities, where there is an overall environmental gain;
CORE 2	CBA 2 Degraded (but best option for meeting biodiversity conservation targets) and ESA 1	<ul style="list-style-type: none"> Core 2 areas should be maintained in a natural or near-natural state, with no further loss of natural habitat; or Where some losses of natural habitat have occurred or are permitted to occur, such areas should be maintained at least in a functional, near-natural state provided that underlying biodiversity objectives and ecological functioning are not compromised; Wherever possible, these areas should be rehabilitated 	<ul style="list-style-type: none"> Extensive game farming and eco-tourism operations with strict control on environmental impacts and carrying capacities, where there is an overall environmental gain; Conservation management and associated activities, including alien clearing, research and environmental education; Managed and controlled Extensive Livestock Production in line with the sustainable carrying capacity of the habitat type and other site sensitivities; Higher impact land use options than may be permitted in Core 1b areas are not excluded but, if allowed following due process, must not compromise ecological integrity; and Required support infrastructure for the above activities.

Table 54. Spatial Planning Categories and Land Use Management Guidelines

SPC	Biodiversity Plan Category	Key Land Use Outcomes	Indicative Compatible Land Uses
BUFFER	ESA 2 and Other Natural Areas (ONAs)	<ul style="list-style-type: none">• Buffer areas should be managed to retain or rehabilitate their ecological processes in order to minimize impacts on ecological functioning, especially soil and water-related processes (so-called ecosystem services)	<ul style="list-style-type: none">• Conservation and associated activities.• Extensive game farming and eco-tourism operations.• Extensive Livestock Production.• Low density rural residential, smallholdings or resorts or other• Developments where development design and overall development densities allow maintenance of ecological functioning.• Existing activities (e.g. arable agriculture) should be maintained, but where possible a transition to less intensive land uses or ecological restoration should be promoted/favoured.
AGRICULTURE	No Natural Remaining	<ul style="list-style-type: none">• Extensive livestock or game farming• Intensive agriculture including irrigated cultivation• Dryland crop production and tillage• Forestry and timber plantations	<ul style="list-style-type: none">• Activities and uses directly related to the primary agricultural enterprise.;• Farm buildings and associated structures (e.g. one homestead, barns, agri-worker housing, etc.);• Additional dwelling units to support rural tourism opportunities and to diversify farm income, in line with the guideline of 1 additional non-alienable dwelling unit per 10ha, up to a maximum of 5 per farm;• Ancillary rural activities of appropriate scale that do not detract from farming production, that diversify farm income, and add value to locally produced products, e.g.:<ul style="list-style-type: none">- Restaurant and function venue facility;- farmstall and farm store;- home occupation;- local product processing (e.g. winery, olive pressing); and- rural recreational facilities (e.g. riding school).• Ancillary on-farm activities in an Agriculture SPC will be impacted on by surrounding farming activities (e.g. dust generation, spray drift, etc.), and these impacts are not grounds for restricting farming production;• Large scale resorts, and tourist and recreation facilities should not be accommodated within Agriculture SPCs as they detract from the functionality and integrity of productive landscapes;• Intensive-(feed)animal farming in Agriculture SPCs should be located in areas where the operational impacts (e.g. odour and traffic) are minimized
URBAN DEVELOPMENT	No Natural Remaining	<ul style="list-style-type: none">• Sustainable human settlement in both urban and rural settlement contexts	<ul style="list-style-type: none">• Context-appropriate array of land uses including but not limited to residential developments of varying character and density; commercial and business enterprises; industrial land uses; social facilities; recreational facilities; urban infrastructure; land sea, and air transportation networks, facilities and termini; open space networks

6.3.2. Densification Guidelines

A common misconception is that single-dwelling Residential Use is not compatible with achieving higher densities and that high density means high rise or development that will impact negatively on the quality of lower residential areas. This, as well as the perception that higher density developments are responsible for creating negative social conditions, has led to a lack of significant changes to densities especially in the smaller towns of the Western Cape, even though it is clear that densification is necessary to promote the longer-term sustainability of our settlements' valuable natural, urban and rural environments.

National and provincial government have set municipalities the target of increasing the density of urban areas to an average gross based density of 25 dwelling units / hectare. The Bergrivier Municipality will have to adopt a densification strategy for the next twenty years to achieve these densification targets in a sustainable manner. To achieve these objectives, responsible infill development will have to take place with higher density developments encouraged along activity streets and integrated developments consisting of a combination of densities developed on available vacant land within the urban edge. Densification within Bergrivier can be reached through a variety of mechanisms and strategies:

Promoting urban renewal through the infill of erven and development of existing vacant areas within the existing urban footprint

Supporting double storey as well as semi-detached units or other forms of densification of existing uses and buildings

Facilitating subdivision of erven, second dwelling units and sectional title developments – the development can especially take place in specific residential areas where large erven alongside wide streets were created and the area itself lends to densification

Ensuring that new greenfield developments consist of a range of densities and typologies that can assist in achieving higher overall densities for each settlement - due care must be taken in regard to the adjacent rural/ agricultural environment.

Densification must be supported and prioritised in strategic locations such as:

1. **In areas with high economic activity or growth (CBD Area)**
2. **Along main transport routes for purpose of public transport support**
3. **On the edge of open spaces for purpose of increasing the level of observation of the areas to ensure security**
4. **Within the areas where investment of public funds are focused (RSEP / Precinct Plans / Integration Zones)**
5. **In areas of high private investment e.g. in and around commercial nodes**

Other considerations include the following:

- The focus of densification is not on residential use alone - a mix of land uses are required to sustainability restructure settlements.
- The repair and renewal of existing infrastructure in well located areas with enhanced capacity to accommodate densification should be prioritised by municipal officials and the IDP.
- Gated developments or estates should be avoided when in locations and at a scale that will compromise the walkability of the area while also not increasing the required densities to support NMT and public transport.
- Backyarding should be considered a legitimate form of densification and a means of responding to housing demand. The viability and sustainability of backyarding should therefore be supported in the prioritisation of utility and social infrastructure provision, upgrading and maintenance, and should be planned for in the layout and infrastructure specifications for new low income housing projects where possible.

6.3.3. Heritage Guidelines

Heritage and spatial conservation and development guidelines are summarised as follows:

- acknowledge and develop cultural diversity and social transformation by broadening the scope of heritage to include previously unrecognised heritage resources (e.g. historic beach access routes, initiation sites etc.)
- enhance the quality and integration of the public environment and the associated sense of belonging
- approach heritage built form as an asset to the community
- enable conservation, enhancement and utilization of historic built form through adaptive re-use
- arrest and mitigate eroding historic fabric and increasing numbers of vacant and neglected historic buildings with joint private/public sector investment projects
- invest in the ongoing identification of and maintenance/celebration of all cultural heritage by creative means and involving all communities – specifically those previously marginalised communities
- Capitalise on unique neighbouring municipality partnerships

154

6.4. Capital Expenditure Framework

The following section unpacks the prioritisation of key enabling infrastructure projects in relation to land development and housing areas identified for each settlement in terms of short (0-5 years), medium (5-10 years) or long term (10-20 years) implementation timeframes. The prioritization of the identified land parcels is based on:

- spatial planning principles,
- the strategic location of each site in terms of promoting spatial integration and the future growth vision for each settlement.
- inputs provided by the environmental, engineering and heritage professionals on the SDF team.

Engineering Assessment Inputs

In accordance with guidance provided by the Team's engineers on infrastructure capacities, each site identified for development was ranked in terms of feasibility of development, with 1-2 as short term, 3-5 as medium term and 6-8 as longer term or not feasible:

1. Areas that can be developed immediately
2. Sewage pumping down stream of development must be checked to ensure that the area can be accommodated
3. Requires infrastructure to connect to the sewage network
4. No sewage capacity
5. There is capacity but not for the full area/site to develop
6. No water capacity
7. No water capacity and no sewage infrastructure
8. Do not have any water or sewage infrastructure or any reservoir

Environmental Assessment Inputs

In addition to serviceability, inputs on each site's potential impacts on biodiversity and relative suitability for development was considered at town-scale and guidance was provided in relation to the environmental contexts of each town.

Finally, heritage information and guidance on the historic core areas for each settlement was taken into consideration.

These guiding factors were then consolidated and mapped for each settlement, whereafter housing and infill sites were analysed in terms of the amount of space being provided against the current and future housing demand to determine rough densities for each settlement.

Table 55 summarises these findings, and is set out in more detail per settlement in Sections 6.4.1 onward. It should be noted that densities recorded relate to the areas of land identified for housing development in the

present five-year MSDF. However, the MSDF also takes its lead from the Housing Pipeline data recorded in Section 3.3.1.3.1 above and, in instances where land that is available for development in the short-term is seen to result in unfeasibly high densities in relation to the overall housing need currently recorded, it should be noted that the land so-identified remain adequate to cater for the anticipated housing delivery in the five-year lifespan of the MSDF. With the implementation of infrastructure network enhancements, other land parcels that are identified for development in the longer term would become available for implementation.

In this regard, Table 56 lists the key infrastructure enhancement projects that are programmed for implementation over the next 10-15 time frame. This table is unpacked and reflected against the relevant town where specific projects are to be undertaken in order to develop the capacity needed to service future development in section 6.4.1 onward.

Table 55. Comparing Housing Need versus land allocated for development and the associated densities

Town	2018 Housing Need (households)	5 of Town's Current Population	2023 Housing Need (growth at 2,2%)	Total Ha identified for short term 5 yr housing need	Average Gross Density Achieved (If all sites are developed by 2023)
Piketberg	1967	62%	2193	11,8 ha	185,7 du/ha
Velddrif / Laaiplek	1303	29%	1452	92,6 ha	12,6 du/ha
Porterville	1100	54%	1226	14,1 ha	86,9 du/ha
Eendekuil	229	47%	255	0 ha	NA
Dwarskersbos	None	NA	None	NA (only private development)	NA
Redelinghuys	239	208%	266	3,9 ha	68,3 du/ha
Aurora	66	26%	74	0 ha	NA

Table 56. Municipal Infrastructure Priorities and Budgets

Priority	Project	Priority 10yr Plan	Existing Capacity	Total Capacity	Additional Capacity	Unit	Town	Start Date	End Date	Cost Estimates (R Million)	Budget (R Million)
1	Upgrade Water Infrastructure	• PV/PB Water Purification	750	1500	750	kl/d	Porterville				
2	Reservoir	• Velddrif Reservoir	5	10	5	MI	Velddrif	Jul 16	Des 16	R 23,63	R 22,50
3	Upgrade WWTW	• Porterville WWTW	750	1500	750	kl/d	Porterville	Jan 17	Jun 19	R 31,80	R 30,00
4	Reservoir	• Piketberg Reservoir	5,7	8,2	2,5	MI	Piketberg	Jul 19	Jun 20	R 11,82	R 15,00
5	Upgrade WWTW	• Velddrif WWTW	2000	3500	1500	kl/d	Velddrif	Jul 20	Des 21	R 47,70	R 45,50
6	Electric	• Velddrif Electric	8	16	8	Mva	Velddrif	Jul 20	Jul 21	R 8,00	R 0,00
7	Electric	• Piketberg Electric	315	1000	685	Kva	Eendekuil	Des 20	Des 21	R 0,69	R 0,00
8	Electric	• Velddrif Electric	500	1000	500	Kva	Aurora	Jul 21	Jul 22	R 0,50	R 0,00
9	Reservoir	• Velddrif Reservoir	400	1000	600	KI	Eendekuil	Des 21	Des 22	R 2,84	R 3,00
10	Upgrade WTW	• Velddrif WTW	200	450	250	kl/d	Eendekuil	Jul 22	Jul 23	R 1,78	R 2,00
11	Upgrade WWTW	• Velddrif WWTW	140	250	110	kl/d	Eendekuil	Jul 22	Jul 23	R 4,66	R 5,00
12	Upgrade WTW	• Velddrif WTW	220	450	230	kl/d	Aurora	Jul 23	Jul 24	R 1,64	R 3,00
13	Upgrade WTW	• Velddrif WTW	3200	4500	1300	kl/d	Piketberg	Jul 23	Jul 24	R 9,28	R 11,00
14	Electric	• Velddrif Electric	6	8,5	2,5	Mva	Piketberg	Des 23	Des 24	R 2,50	R 0,00
15	Reservoir	• Velddrif Reservoir	3985	5000	1015	KI	Porterville	Jul 24	Jul 25	R 4,80	R 5,00
16	Upgrade WWTW	• Velddrif WWTW	1500	2000	500	kl/d	Porterville	Des 24	Jul 26	R 21,20	R 21,00
17	Upgrade WTW	• Velddrif WTW	1500	2250	750	KI	Porterville	Des 24	Jul 26	R 5,35	R 6,00
18	Reservoir	• Velddrif Reservoir	550	600	50	KI	Aurora	Jul 25	Jul 26	R 0,24	R 0,00
19	Reservoir	• Velddrif Reservoir	8,2	10,7	2,5	MI	Piketberg	Des 25	Des 26	R 11,82	R 0,00
20	Reservoir	• Velddrif Reservoir	10	15	5	MI	Velddrif	Jul 26	Jul 27	R 23,63	R 0,00
21	Upgrade WWTW	• Velddrif WWTW	3500	5000	1500	kl/d	Velddrif	Jul 27	Des 28	R 47,70	R 0,00
22	Verdiep Dam	• Velddrif Dam	480	550	70	MI	Porterville	Jul 27	28-Jul	R 1,00	R 0,00
23	Electric	• Velddrif Electric	500	600	100	Kva	Dwarskersbos	Jul 29	Jul 30	R 0,10	R 0,00
24	Upgrade WTW	• Velddrif WTW	290	400	110	KI	Dwarskersbos	Des 32	Des 33	R 0,79	R 0,00
25	Upgrade WTW	• Velddrif WTW	4500	6000	1500	kl/d	Piketberg	Jul 33	Jul 34	R 10,71	R 0,00
26	Upgrade WWTW	• Velddrif WWTW	4500	5500	1000	kl/d	Piketberg	Jul 34	Des 35	R 42,40	R 0,00
27	Electric	• Velddrif Electric	8,5	10	1,5	Mva	Piketberg	Jul 34	Jul 35	R 1,50	R 0,00
TOTAL										R318,07	

6.4.1. Piketberg

Table 57. Land budgeting for housing in Piketberg

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs				Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill			
	number on map	1	2	3		4	5	6	7
1967 households	Description	Group of smaller portions in northern area of town	Site in Steynville	Existing municipal residential project in south	11,8 ha	Golf course	Northern portion along ridge line	Portion along south west corner area	Long strip in southern area
	Size	5,6 ha	1 ha	5,2 ha		19,9 ha	26,7 ha	13,4 ha	1,6 ha
	Ownership	Mostly municipal, except for long western strip private	Municipal	Municipal		Part Private Part Municipal	Private	Private	Private
	GLS infrastructure capacity rating	1	1	1		1	1	1	1
	SDF Comments	Opportunity for higher density human settlement projects. Public-funded.	Negotiations with private owners	Mix of typologies and income groups			Impacts on scenic ridge line	Expensive to service	Unsupported development pattern

Table 58. Piketberg Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS																				
WTW	3200 kl/d							4500 kl/d										6000 kl/d		
WWTW	3150 kl/d																		4500 kl/d	
ELEC	6.5 MVA			2.5 MI	8.2 MI			8.5 MVA	2.5MI	10.7 MI									10 MVA	
RES	5700kl																			2.5 MI
WWTW-PV	Upgrading Capacity																			
Housing																				
IRDP					100							100								100
GAP			46			20									20					



Figure 119. Implementation Framework and Land Budgeting - Identification and Prioritisation for Piketberg

Table 59. Land budgeting for housing in Velddrif / Laaiplek

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs				Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill		
	number on map	1	2	3		4	5	6
1303 households	Description	Noordhoek Development	Vacant properties in Velddrif	Development in Laaiplek	92,6 ha	Strip north of Velddrif residential area next to sport fields	Noordhoek Strip next to water course	Open space between Velddrif and Port Owen
	Size	69,9 ha	7,4 ha	15,3 ha		18 ha	31,2 ha	5,6 ha
	Ownership	Municipal	State	Private		Private	Municipal	Private
	GLS infrastructure capacity rating	3	1	1		2	3	1
	SDF Comments	Integrate appropriately into existing neighbourhood with clear routes and walkways - linkages Provide social facilities	Integrate appropriately with existing neighbourhood Mix of typologies	Existing proposal? Consider implications of proposed conservation area of historic burial ground		Integrate appropriately with existing neighbourhood Mix of typologies	Investigate state of water course and developmental impacts	Maintain development within 1:100 year flood line

Table 60. Velddrif / Laaiplek Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS	7200 kl/d																			
WTW	9500 kl/d																			
WWTW	2000 kl/d				3500 kl/d							5000 kl/d								
ELEC	8 MVA				16 MVA															
RES	5 MI	10 MI									5 MI & 15 MI									
WWTW-PV	No Capacity Available	Upgrading Capacity 1659 kl/d																		
Housing																				
IRDP								100							100					
GAP																				



Figure 120. Implementation Framework and Land Budgeting - Identification and Prioritisation for Veldrif / Laaiplek

6.4.3. Porterville

Table 61. Land budgeting for housing in Porterville

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs			Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill				
	number on map	1	2		3	4	5	6	7
1100 households	Description	Monte Bertha Expansion	Site south of Cemetery	14,1 ha	North 1	North 2	North 3	North 4	North 5
	Size	10,4 ha	3,7 ha		12,1 ha	10,6 ha	6,7 ha	7,2 ha	6,9 ha
	Ownership	Private	Private		Private	Private	Private	Private	Private
	GLS infrastructure capacity rating	4	1		1	1	1	1	1
	SDF Comments	Integrate appropriately into existing neighbourhood	Provide clear pathways for public access to town		Avoid waterway by 32m buffer	Contain Mix of typologies	Avoid waterway by 32m buffer	Contain Mix of typologies	Contain Mix of typologies

Table 62. Porterville Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS												Verdiep Dam								
WTW	1949 kl/d				Sand filters															2500 kl/d
WWTW	No Capacity	750 kl/d - Upgrading Capacity 1500 kl/d				NGP			2250 kl/d											
ELEC	6 MVA																			
RES	3.985 MI								1 MI											
Housing																				
IRDP						100					100							100		
GAP				20																



Figure 121. Implementation Framework and Land Budgeting - Identification and Prioritisation for Porterville

6.4.4. Eendekuil

Table 63. Land budgeting for housing in Eendekuil

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs			Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill				
	number on map	NA	NA		1	2	3	4	5
229 households	Description			0 ha	Infill in southern portion	Northern portion on industrial land	Infill in northern portion	Site opposite Rooibos factory	Southern expansion outside urban edge
	Size				0,8 ha	1,4 ha	0,4 ha	2 ha	1,3 ha
	Ownership				Part Municipal Part Private	Private	Private	Private	Private
	GLS infrastructure capacity rating				4	5	5	6	7
	SDF Comments				Opportunity for infill and community facilities	Mix of typologies		Contain Mix of typologies	Not supported by ecologist

Table 64. Eendekuil Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS																				
WTW	200 kl/d						450 kl/d													
WWTW							250 kl/d													
ELEC	315 KVA				1 MVA															
RES	0.4 MI					1 ML Res														
WWTW-PV																				
Housing																				
IRD			23																	
GAP																				



Figure 122. Implementation Framework and Land Budgeting - Identification and Prioritisation for Eendekuil

164 6.4.5. Dwarskersbos

Table 65. Land budgeting for housing in Dwarskersbos

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs			Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill	
	number on map	1	2		3	4
None	Description	Approved development - cadastrals and services of phase 1 already implemented	Approved development - longer term phases	NA	Southern strip next to proposed old age facility	Central strip extension inland
	Size	132,46 ha - 27% for housing, 73% for open space and nature reserve			18 ha	24,6 ha
	Ownership	Private	Private		Private	Private
	GLS infrastructure capacity rating	Not surveyed	Not surveyed		2	1
	SDF Comments	Integrate appropriately into existing town structure with walkways and clear linkages			Low impact construction	Low impact construction
		Integrate single residential with group housing			Integrate appropriately with existing neighbourhood	Integrate appropriately with existing neighbourhood
					Mix of typologies	Mix of typologies

Table 66. Dwarskersbos Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS																				
WTW																				
WWTW	290 kl/d																400 kl/d			
ELEC	500 KVA													600 KVA						
RES																				
WWTW-PV																				
Housing																				
IRDP																				
GAP																				

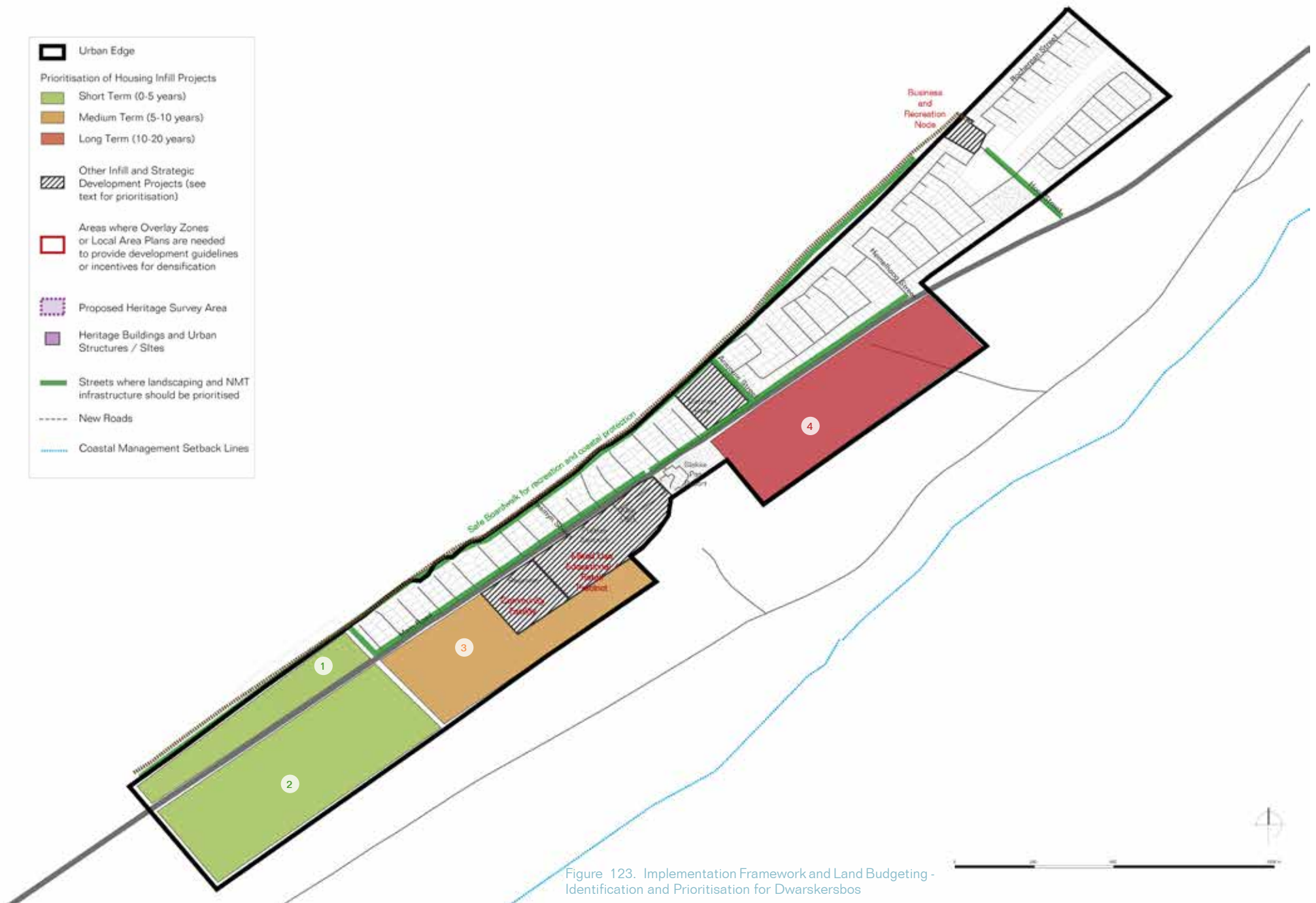


Table 67. Land budgeting for housing in Redelinghuys

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs		Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill		
	number on map	1		2	3	NA
239 households	Description	Infill development on vacant land in southern portion of town	3,9 ha	X	X	
	Size	3,9 ha		0,5 ha	0,9 ha	
	Ownership	Part Municipal Part Private		Private	Private	
	GLS infrastructure capacity rating	2		2	2	
	SDF Comments	Investigate impacts on CBAs and ESAs Integrate appropriately into existing neighbourhood with clear routes and walkways - linkages Provide social facilities		Integrate appropriately with existing neighbourhood Mix of typologies	Integrate appropriately with existing neighbourhood Mix of typologies	

Table 68. Redelinghuys Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS																				
WTW																				
WWTW																				
ELEC																				
RES																				
WWTW-PV																				
Housing																				
IRDP																				
GAP																				



6.4.7. Aurora

Table 69. Land budgeting for housing in Aurora

2018 Housing Need	SDF allocation of sites for housing infill over next 5 yrs			Total Ha for 5 yr housing need	SDF allocation of sites for longer term infill	
	number on map	NA	NA		1	2
66 households	Description			0 ha	Southern extension	Infill east of Sport Precinct
	Size				2 ha	3,5 ha
	Ownership				Private	Part Municipal Part Private
	GLS infrastructure capacity rating				2	2
	SDF Comments				Integrate appropriately with existing neighbourhood Mix of typologies	Integrate appropriately with existing neighbourhood Mix of typologies

Table 70. Aurora Bulk Capacities and Projects

YEAR	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Infrastructure																				
WS																				
WTW	200 kl/d							450 kl												
WWTW	NONE																			
ELEC	500 KVA					1 MVA														
RES	550 kl									0.5 MI										
WWTW-PV																				
Housing																				
IRDП												20								
GAP																				

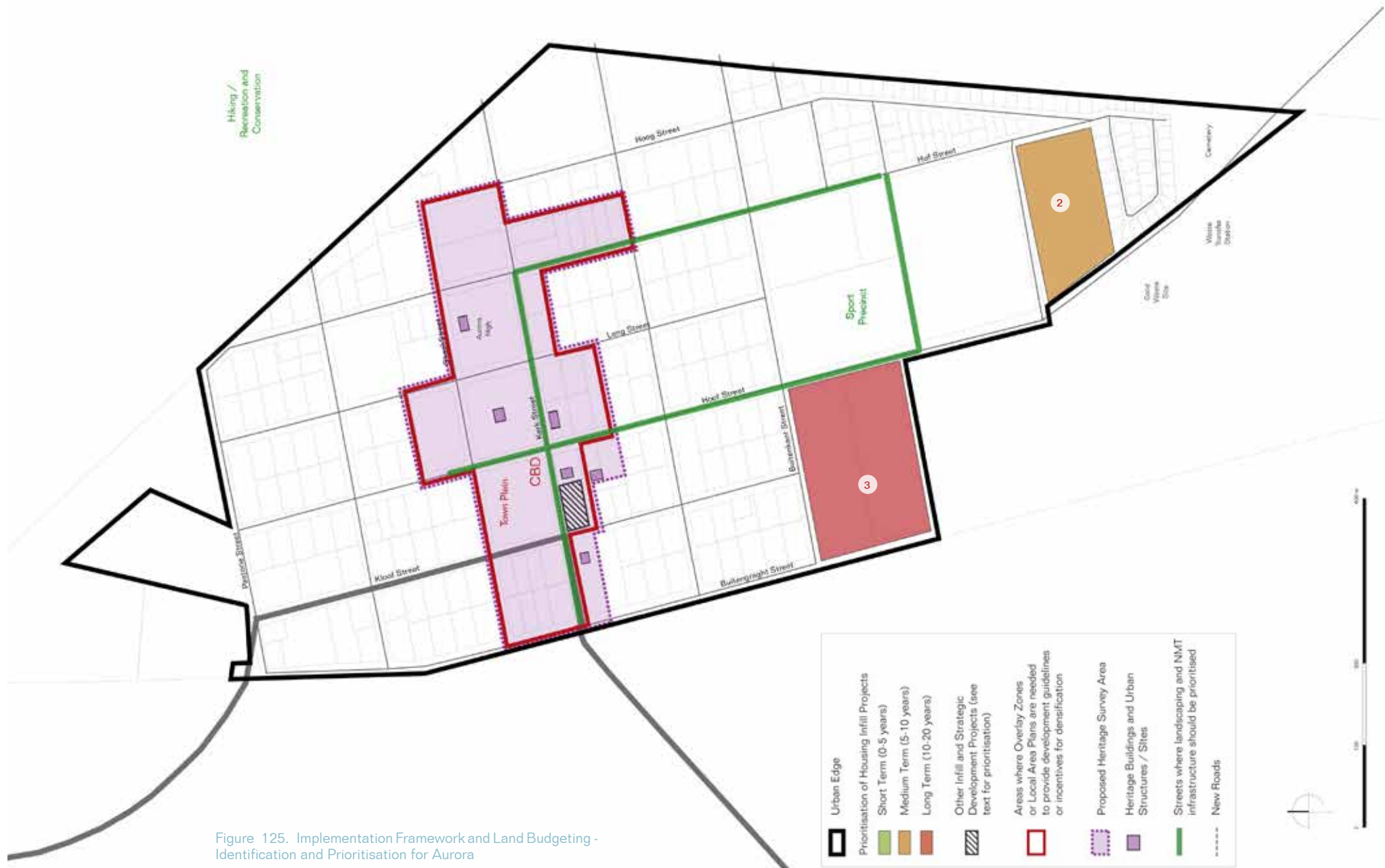


Figure 125. Implementation Framework and Land Budgeting - Identification and Prioritisation for Aurora

6.5. Monitoring of Implementation

At the outset it is noted that the monitoring and evaluation of a spatial planning instrument such as a Municipal SDF is a complex undertaking as spatial development processes and spatial transformation of urban and rural landscapes occur in response to a range of factors related to social, economic and environmental factors. Often measurable elements of such processes are not clearly tangible within short periods of time.

Accordingly, in order to monitor and evaluate the fitness for purpose of the MSDF it is proposed to employ two levels of assessment: (i) Reporting on land use and land development trends in the municipal area; and (ii) Reporting on progress made with the release and approval of land parcels for purposes of land and human settlement development and the implementation of specific projects identified as Enabling Projects for Spatial Development and Land Use Management in Section 6.2 above.

Such reporting would be able to flag any pressure points and/or inconsistencies in the MSDF that may require a review and/or amendment of the document.

6.5.1. Reporting on Land Use and Land Development Trends

It is proposed that a quarterly report be compiled to record the following:

Number of applications for amendments of land use received per quarter (rezonings, consent uses and departures) reflecting where such applications are in accordance with the provisions of the MSDF and where they seek to motivate an amendment of the MSDF proposals and/or where the Municipal Planning Tribunal has approved site-specific deviations from the MSDF provisions;

- Number of applications received for subdivisions and/or consolidations of land parcels and their geographic locality;

- Number of applications received for land development (township establishment);
- Number of environmental authorisation processes underway and localities of these; and
- Number of Building Plans approved and their specified land use.

The purpose of such reporting is to monitor trends in relation to spatial development processes and to flag any inconsistencies in the MSDF that need to be resolved prior to a Five-Year Review.

This reporting would form an ongoing record of corrections and or site-specific deviations from the provisions of the MSDF and will form a starting point for the next MSDF Five-Year Review.

6.5.2. Reporting on Progress with Implementation of Land Development and Enabling Projects for Spatial Planning and Land Use Management

With regard to the implementation of specific project proposals contained in this MSDF, it is acknowledged that virtually all of the specific proposals relating to land development for human settlement and infrastructure development purposes are reliant on external funding and the timing of implementation of these are not entirely within the direct control of the Bergrivier Municipality. Likewise, the implementation of projects identified in Section 6.2 above is mainly reliant on the availability of funding from external sources.

In the light of this, it is proposed that an assessment of progress made in releasing land for human settlement development as well as progress achieved on enabling projects for spatial development and land use management is reported on as part of the annual IDP Review.

6.5.3. Municipal SDF Review Timeframes

As noted above, it is generally recognised that spatial development processes take place over timeframes generally longer than one to two years (and sometimes considerably longer). Therefore, unless compelling circumstances require it, a full review and/or amendment of the MSDF should not need to be undertaken more frequently than every five years.

However, in the event that significant changes are made to the strategic objectives of the Municipal Integrated Development Plan, these may need to be reflected in an ad-hoc amendment of the MSDF.

In the absence of compelling factors requiring an ad-hoc amendment of the MSDF, the Five-Year Review cycle should be maintained in line with the provisions of SPLUMA, LUPA and the Municipal By-Law on Land Use Planning. Accordingly, the next Five-Year Review should be initiated in 2023.

Reference List

Bergvriervier Municipality. (2015). Spatial Development Framework 2012 - 2017 .

Bergvriervier Municipality. (2017, February 03). Municipal Land Use. Retrieved from Bergvriervier Municipality : <http://www.bergmun.org.za/resource-category/municipal-land-use>

Bergvriervier Municipality. (2016). Draft Infrastructure Plan.

Bergvriervier Municipality. (2016). Integrated Development Plan 2017- 2022 .

Bergvriervier Municipality. (2015). Local Economic Development Strategy.

Bergvriervier Municipality. (2015). Porterville CBD Precinct Plan.

Bergvriervier Municipality. (2014). Velddrif/Laaiplek Precinct Plan.

CapeNature/Western Cape Government: Department of Environmental Affairs and Development Planning. (2017). Western Cape Biodiversity Spatial Plan.

Cederberg Municipality. (2017). Spatial Development Framework 2017-2022

Department of Water and Sanitation. (2016). Development of reconciliation strategies for all towns in the Southern planning regions.

Department of Water and Sanitation. (2017, February 07). Water Services Development Planning portal. Retrieved from <http://196.38.48.12/Login.aspx?ReturnUrl=%2fDefault.aspx>

Drakenstein Municipality. (2015). Spatial Development Framework

Eskom. 2011. Eskom Western Cape West Coast Master Plan .

Eskom. 2013. Transmission Ten- Year Development Plan 2013-2022. <http://www.eskom.co.za/Whatweredoing/TransmissionDevelopmentPlan/Documents/TransDevPlanBrochure2013-2022.pdf>

Eskom. 2013. Eskom Power Stations. Map issued by the Eskom Generation Communication Department. February 2013

Green Cape. 2014. Water as a Constraint on Economic Development. 2014-2015 Research Project Progress Report. March 2015.

Green Cape. 2017. Towards sustainable economic development in water constrained catchments: tools to empower decision-making. Presentation delivered 11 July 2017

Pinnock, D. Gang Town, Tafelberg, 2016

Saldanha Bay Municipality. (2017). Draft Saldanha Bay Economic Development Strategy

Saldanha Bay Municipality. (2017). Integrated Development Plan 2017 – 2022

Saldanha Bay Municipality. (2011). Spatial Development Framework

Swartland Municipality. (2017). Spatial Development Framework 2017 - 2022.

Swartland Municipality. (2017). Integrated Development Plan 2017 - 2022.

Swartland Municipality. (2016). Swartland LED strategy.

Western Cape Government: Department of Economic Development and Tourism. (2016). West Coast Industrial Plan.

Western Cape Government: Department of Environmental Affairs and Development Planning. (2016). Assessment of the Municipal Integrated Waste Management Infrastructure: West Coast District.

Western Cape Government: Department of Environmental Affairs and Development Planning. Environmental Management Framework for the Greater Saldanha Area, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Cape Metro Regional Spatial Implementation Framework, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Saldanha

Regional Spatial Implementation Framework: Assessment of Regional Economic Infrastructure in the Saldanha Bay, Bergvriervier and Swartland Local Municipal Areas, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Saldanha Regional Spatial Implementation Framework: Energy and Electricity Grid Corridors, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Saldanha Regional Spatial Implementation Framework: Information Communication Technology Assessment, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Saldanha Regional Spatial Implementation Framework: Regional Transport and Freight Assessment, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Greater Saldanha Regional Spatial Implementation Framework: Social Infrastructure Accessibility Study, 2017

Western Cape Government: Department of Environmental Affairs and Development Planning. Growth Potential Study, 2014

Western Cape Government: Department of Environmental Affairs and Development Planning. Provincial Spatial Development Framework, 2014

Western Cape Government: Economic Cluster, 2015. Project Khulisa.

Western Cape Government: Provincial Treasury, 2017. Municipal Economic Review and Outlook.

Western Cape Government: Department of Environmental Affairs and Development Planning. DEA&DP & Rumbelow. J, (2018) Estimates of Western Cape Settlement Population. DRAFT DATA dated 7 September 2018.

Witzenberg Municipality. (2012). Spatial Development Framework

Annexures

1. Summary of Policy Informants

Table 71. Summary of Policy Informants at International and National Scale

SCALE	POLICY TITLE	STRATEGIC GOALS / FOCUS	SUMMARY AND APPLICATION TO BERGRIVIER
INTER-NATIONAL	UN 2030 Agenda for Sustainable Development	<ul style="list-style-type: none"> 17 Sustainable Development Goals planning for sustainable cities and communities and building strong institutions and partnerships 	<p>SDG6: Clean Water & Sanitation - appropriate water supply systems and infrastructure to ensure adequate fresh (potable) water is supplied to communities</p> <p>SDG7: Renewable Energy - ensure that adequate energy is supplied to meet developmental challenges</p> <p>SDG11: Sustainable Cities and Communities - challenges associated with urbanisation need to be dealt with programmatically</p>
NATIONAL	National Development Plan 2030	<ul style="list-style-type: none"> long-term plan for the nation, focuses on reducing poverty, increasing employment and improving quality of education 	<p>Chapter 8 Human Settlements -</p> <ul style="list-style-type: none"> more people living closer to their places of work better quality public transport; and more jobs in proximity to townships.
	Integrated Urban Development Framework 2016	<ul style="list-style-type: none"> roadmap to implement the NDP's vision for spatial transformation steer urban growth towards a sustainable model of compact, connected and coordinated towns and cities 	<ul style="list-style-type: none"> Spatial integration - To forge new spatial forms in settlement, transport, social and economic areas. Inclusion and access - To ensure people have access to social and economic services, opportunities and choices. Growth - To harness urban dynamism for inclusive, sustainable economic growth and development
	SPLUMA 2013	<ul style="list-style-type: none"> promote consistency and uniformity in procedures and decision-making at the same time addressing historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments 	<p>Chapter 2 - development principles that must guide the preparation, adoption and implementation of any spatial development framework, policy or by-law concerning spatial planning and the development or use of land. Objectives include</p> <ul style="list-style-type: none"> redress of spatial injustices integration of socio-economic and environmental considerations in land use management Mitigation and adaptability through innovations to secure communities from spatial dimensions of socio-economic and environmental (climate change) shocks.
	NEMA 1998	<ul style="list-style-type: none"> provide for co-operative environmental governance by establishing principles for decision-making on matters effecting the environment integrated and coordinated approach towards managing land use and land development processes 	<ul style="list-style-type: none"> Envisages the utilisation of spatial planning and environmental management "instruments" such as spatial development frameworks and environmental management frameworks to build alignment and integration between the imperatives of strategic spatial planning to facilitate development processes whilst ensuring that biodiversity and other critical elements of the natural environment are adequately protected to ensure sustainability

Table 72. Summary of Policy Informants at Provincial Scale

SCALE	POLICY TITLE	STRATEGIC GOALS / FOCUS	SUMMARY AND APPLICATION TO BERGRIVIER
PROVINCIAL	OneCape 2040	<ul style="list-style-type: none"> long-term economic vision for the Western Cape: Goal of "creating a resilient, inclusive and competitive Western Cape with higher rates of employment producing growing incomes, greater equality and an improved quality of life" 	<ul style="list-style-type: none"> transition towards a more inclusive, productive and resilient economic future to realize a vision of "a highly-skilled, innovation driven, resource efficient, connected, high opportunity and collaborative society"
	Provincial Strategic Plan 2014	<ul style="list-style-type: none"> sets out the Western Cape's strategic priorities for the years 2014 to 2019 five Provincial Strategic Goals (PSGs) 	<ul style="list-style-type: none"> PSG1: Create opportunities for growth and jobs PSG2: Improve education outcomes and opportunities for youth development PSG3: Increase wellness, safety and tackle social ills PSG4: Enable a resilient, sustainable, quality and inclusive living environment PSG5: Embed good governance and integrated service delivery through partnerships and spatial alignment
	LUPA 2014	<ul style="list-style-type: none"> to guide and support the activities of spatial planning and land use management in the Province at Provincial and Local Government spheres 	<ul style="list-style-type: none"> Legislates a set of mandatory "Land Use Planning Principles" - same as the SPLUMA Development Principles Establishes minimum standards in respect of Spatial Planning Provides for minimum norms and standards to be made applicable to municipal development management.
	WCIF 2013	<ul style="list-style-type: none"> align planning, delivery and management of infrastructure provided by national, provincial and local government and parastatals and the private sector to the strategic agenda and vision for the Province 	<p>Requires of the stakeholders involved in the planning and delivery of key infrastructure (Water, Energy, Transport, ICT and Settlement-related) to implement key transitions in the systems they develop and maintain. Transitions include:</p> <ul style="list-style-type: none"> Diversify housing programme - greater emphasis on incremental options Prioritise public service facilities in previously neglected areas Adopt the reuse of wastewater Diversify agriculture
	PLTF 2013 Update	<ul style="list-style-type: none"> sets out a long term vision for transport in the Western Cape sets 8 targets for the transport system in the Western Cape by 2050 	<p>Targets include:</p> <ul style="list-style-type: none"> Fully Integrated Public Transport Networks (IPTN) in the rural regions of the Province Well maintained road network A sustainable, efficient, high speed, long distance rail network (public and freight transport) with links to the Northern Cape, Gauteng and the Eastern Cape
	PSDF 2014	<ul style="list-style-type: none"> sets out the key strategic spatial transitions required to achieve a more sustainable use of provincial assets, the opening-up of opportunities in the space-economy, and sustainable settlements take forward the NDP's spatial agenda with respect to urban and rural transformation, improving infrastructure, and building environmental sustainability and resilience 	<ul style="list-style-type: none"> Identified three functional regions where significant development trends and/or development potentials were seen to exist. One of these functional regions is the emerging Greater Saldanha Regional Industrial Complex, with the Saldanha Bay/Vredenburg growth centre at its heart. This Greater Saldanha Region (GSR) is noted as experiencing a wide range of developmental and environmental initiatives driven by an array of role-players. Bergvriervier Municipality falls within this functional region and is to be considered within this strategic context.

Table 73. Summary of Policy Informants at District and Local Scale

SCALE	POLICY TITLE	STRATEGIC GOALS / FOCUS	SUMMARY AND APPLICATION TO BERGRIVIER
DISTRICT	West Coast SDF 2014	<ul style="list-style-type: none"> • spatial vision for the SDF is to create a "quality destination of choice through an open opportunity society" • Spatial proposals are centered around promoting sustainable development, prioritising development in highest growth potential areas, and facilitating development along key corridors 	<p>The plan identifies 3 focus areas in the WCDM for prioritised future development:</p> <ul style="list-style-type: none"> • The Major Regional Growth Centre of Saldanha/Vredenburg; • The Lower N7 Regional Development Corridor; and • A Northern Rural Development Corridor along the Olifantsriver <p>Bergrivier forms part of the regional N7 corridor with Piketberg as the northern "gateway" to this corridor. Velddrif/Laaiplek and Porterville are also identified as sub-regional nodes, with Velddrif situated along the proposed West Coast tourism route</p>
	WCD Rural Development Plan 2017	<ul style="list-style-type: none"> • Prepared to ease integration of the Agri-Park Initiative and accompanying Department of Rural Development and Land Reform (DRDLR) projects into Local Municipal IDPs and SDFs • Aims to assist municipalities and other sector departments to invest in a coordinated manner in order to enable the development and functioning of the West Coast District Agri-Park 	<p>An Agri-Park comprises of three basic units:</p> <ul style="list-style-type: none"> • A district-scale Agri-Hub Unit • A local-scale Farmer Production Support Unit (FPSU) • The Rural Urban Market Centre Unit (RUMC) • As set out in the Agri-Park Master Plan - Piketberg has been identified as a FPSU to serve a catchment area that includes Wittewater (11 km), Goedverwacht (22 km) and Eendekuil (33 km) and to support emerging farmers that produce vegetables, rooibos tea and meat commodities in this catchment area

Table 74. Summary of Key Policy Informants that are relevant to the municipality in terms of environmental management and an indication of how they should be applied or what their significance is for Bergrivier

FRAMEWORK / GUIDELINE TITLE	OBJECTIVES	SPATIAL GUIDELINES
Bioregional Planning Framework for the Western Cape Province (October 2000)	To enable District Municipalities as well as Local Authorities to manage resources sustainably using defensible and spatially explicit Bioregional Planning tools and principles adopted in the "Bioregional Planning Framework for the Western Cape: Towards the application of the Bioregional Planning Principles and the Implementation of United Nations Educational, Scientific and Cultural Organization (UNESCO's) Biosphere Reserve Programme in land-use planning within the framework of Act 7/1999.". Ensure sustainable development by acknowledging the relationship that exists between biodiversity protection, human wellbeing and economic efficiency within the specific geographical areas.	<ul style="list-style-type: none"> Ensure consistency between spatial areas and guidelines of best available bioregional planning and the Spatial Planning Categories (SPC's) reflected in the SDF
Western Cape Biodiversity Spatial Plan 2017	<p>Biodiversity Spatial Plan aims to protect the natural ecological infrastructure of functional landscapes, and provide for land-use planning that allows the functional persistence of all components of biodiversity from ecosystems to species</p> <p>Protect natural and functional ecological infrastructure that provides the services on which society depends – ex. water delivery and quality</p> <p>Principles require high level of compliance to with spatial recommendations</p>	<ul style="list-style-type: none"> Spatial configuration where possible aims to avoid placing limitations on known production landscapes CBA's and ESAs to provide spatial locations where natural processes would put people and built infrastructure at risk, for e.g. from drought, fire and flood, especially in the face of more unpredictable and extreme events that are already resulting from global climate change
National Protected Areas Expansion Strategy (NPAES, 2008) & Western Cape Protected Areas Expansion Strategy (2015-2020)	Identify areas to allow cost-effective expansion of the protected area network to enhance representation and protection of natural ecological infrastructure, under-protected biodiversity, ecological sustainability and provide for resilience to climate change. Most ecosystems in South Africa are still unprotected or poorly protected. The NPAES sets national-scale ecosystem-specific targets for protected area expansion across the country, identifies geographic focus areas for land-based protected area expansion, and makes recommendations about mechanisms for protected area expansion. It serves as the overarching framework and catalyst for the development of provincial protected area expansion. Western Cape Biodiversity Spatial Plan 2017 spatial planning is aligned with the NPAES.	<ul style="list-style-type: none"> Ensure consistency with the spatial recommendations of the Western Cape Biodiversity Spatial Plan 2017. Although Protected Area expansion priorities are not specifically reflected in an SDF, complying with recommended land-use for CBAs and ESAs provides for optimal and less land-hungry future protected area networks that can meet provincial and municipal obligations in terms of e.g. NEM:BA & NEM:PAA
Western Cape Guideline on Biodiversity Offsets 2015	Provides a framework for offsetting residual biodiversity impacts only when these cannot be adequately avoided, minimised or mitigated within an EIA process. Offsets are a mechanism to ensure that significant residual impacts on biodiversity and ecosystem services are compensated by applicants in such a way that overall biodiversity targets are not undermined, ecological integrity is maintained and development is sustainable.	<ul style="list-style-type: none"> Offsets should be a last resort, but where significant impacts are unavoidable, or alignment with the recommendations of the WC BSP 2017 is not possible, loss of biodiversity must be offset by substantial and strategic increased protection elsewhere as per the recommendations of this guideline

