

10. RIVIERSONDEREND

10.1 TOWN ANALYSIS

10.1.1 Overview

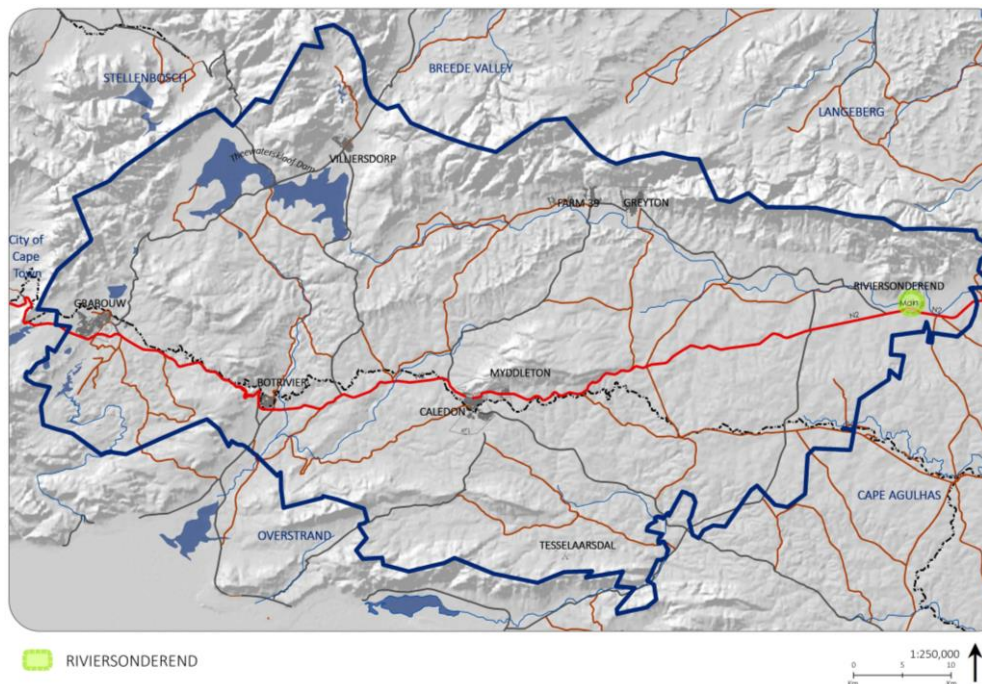


Figure 10.1: Location of Riviersonderend within TWKM

- The role of Riviersonderend within the TWKM is that of an agricultural service centre.
- The town's main comparative economic advantage is the N2 National Road and exposure to passing traffic between Cape Town and the Southern Cape.

- Economic activities are mainly linked to agriculture.

Table 10.1: Riviersonderend Screenshot

Total population	5 245 (2011 Census) 6 171 (2018 MYPE) 6 384 (2023 estimated projection) 7 408 (2033 estimated projection)
Growth rate (2011 – 2018)	2.4% per annum
Projected growth rate (2023 – 2033)	1.5% per annum (estimate)
Role and function	Agricultural service centre
Settlement classification	Secondary regional service centre
Comparative locational advantage	Stop-over between Southern Cape and Cape Town via N2 Direct exposure of CBD to N2 traffic Country town character
Economic base	Agriculture
Growth potential (GPS, 2014)	Medium growth potential Low socio-economic need
Housing backlog	333 persons

10.1.2 Historic Background

Riviersonderend is one of the smaller towns in the OBD. It is located approximately 160 km east of Cape Town. Unlike most towns situated along the N2 National Road, this important route is aligned through the centre of the town and almost bisects the town. Riviersonderend performs a vital link between the agricultural sector, nearby rural settlements and major transport routes.

10.1.3 Settlement Analysis

Analyses of the biophysical and agricultural environments in and around Riviersonderend; the socio-economic profile; and the built environment within Riviersonderend were undertaken to inform the spatial proposals that are presented in the following sections. Refer to **Annexure 1, subsection 5**.

10.1.4 Key Spatial Challenges / Issues

- Urban efficiency / Spatial dislocation:
 - The N2 National Road bisects the town into a northern and southern half, which limits social and spatial integration as development south of the N2 is isolated from development north of the N2. North-south linkages across the N2 are partly restricted by traffic and safety concerns.
 - There is a poor sense of place and identity due to a poor streetscape along the N2;
 - Infiltration of service trades/business uses into residential areas have affected the character of these neighbourhoods.
 - There are large underdeveloped and/or vacant land portions within the existing urban edge.
- Environment:
 - Watercourses flowing through the informal settlement, subsidised

housing developments and small-scale farmer areas are polluted by these areas, which cause further pollution downstream.

- Socio-economic:
 - high level of poverty with limited economic growth opportunities and 87% of the population earning less than R3 200 per month.
- Housing Backlog:
 - The current (2023) subsidised housing backlog is 333 individuals. This is a significant decrease from the 850 persons that were recorded in 2019.

10.1.5 Development Informants and Constraints

- There are patches of Central Rûens Shale Renosterveld (having a critically endangered ecosystem status) and largely intact portions of Cape Lowland Alluvial Vegetation (having a critically endangered ecosystem status) within the urban edge. These areas are listed as CBA.
- The Sonderend River, which skirts the northern and eastern boundaries of Riviersonderend, is an important ecological corridor. Wetlands and/or floodplain areas associated with the Sonderend River system are similarly an important part of this ecological corridor.
- Cultivated agricultural land is located to the south and west of the town.

The following figure illustrates the combined opportunities and constraints identified for Riviersonderend. These need to be considered when planning for future development within the town.



OPPORTUNITIES & CONSTRAINTS

BIOPHYSICAL

- ① Flood prone areas
- ② Pollution prone areas
- ③ Potential for small scale farmers

SOCIO-ECONOMIC

- ① Lack of economic opportunities in areas further than 1 km (15 min walking distance) from the N2
- Lack of investment
- Lack of informal trading spaces
- High levels of unemployment
- Stagnant rates base
- ⓪ N2 represents the economic corridor
- ⓪ Business services linked to agricultural sector
- ⓪ Potential for higher intensity redevelopment adjacent to the N2

BUILT ENVIRONMENT

- ① Informal settlements a high fire risk
- ② Segregated urban structure
- ③ Landfill rehabilitation costs
- ④ Transfer station costs
- Lack of identity
- Status of bulk infrastructure and related upgrade costs
- ⓪ Land available for development
- ⓪ Possible location for electrical vehicle recharge station

Figure 10.2: Riviersonderend: Combined Opportunities and Constraints

10.2 PROPOSALS

10.2.1 The Spatial Development Concept

(i) The Spatial Vision

Promote Riviersonderend as a tourism destination and agricultural service centre and derive maximum economic growth from the N2.

(ii) The Spatial Concept Plan (Figure 10.3)

The following main structuring elements informed the spatial vision and future growth potential of Riviersonderend:

- Nodes:
 - the Primary Economic Area;
 - the cluster of community facilities located in Oostergloed.
- Paths/Routes
 - N2 National Road;
 - Muller Street;
 - Alpha Street;
 - Voortrekker Street.
- Edges
 - Kleinberg Mountain to the north of Riviersonderend;
 - the Sonderend River to the east of the town;
 - intensive agricultural land to the south and west of the town.

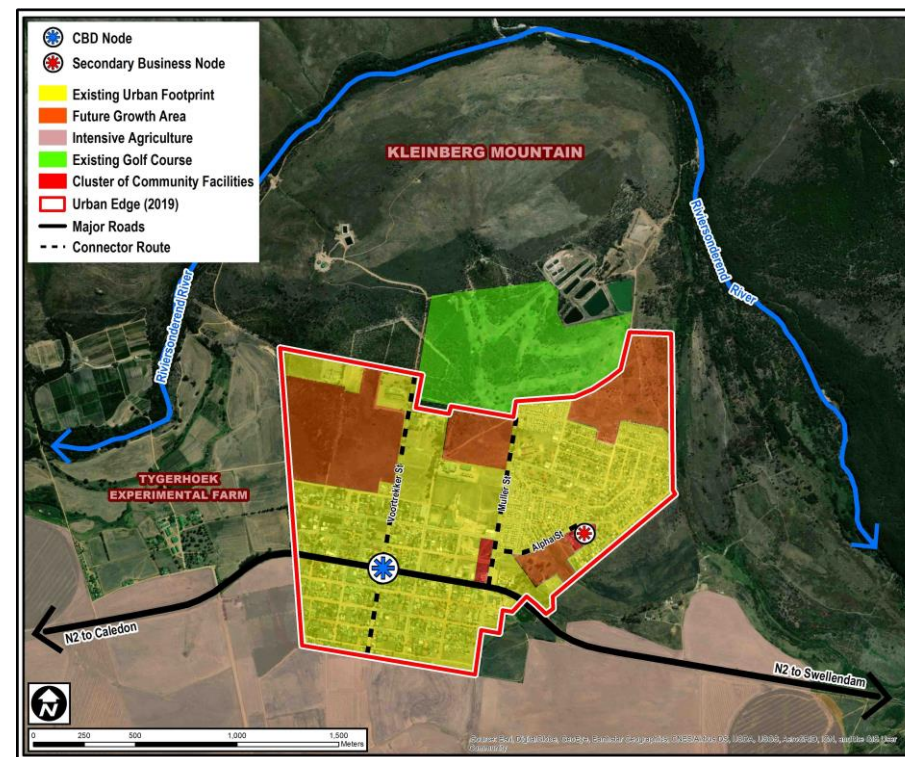


Figure 10.3: Riviersonderend: Spatial Concept

(iii) Principles for Implementing the Spatial Concept

- Encourage:
 - the spatial integration of the Riviersonderend Primary Economic Area and the Oostergloed business node;
 - the strengthening of the commercial sector activities in Main Road;
 - the development of public amenities and services north of the N2.

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- Promote:
 - Riviersonderend as a popular stop-over destination between the Southern Cape and Cape Town;
 - Restrict:
 - development on flood prone areas;
 - small-scale farming activities where potential health hazards exist with regard to abutting residential communities.
 - Maintain / Protect
 - the rural character of Riviersonderend.
 - Contain:
 - development within the urban edge of Riviersonderend.
- (iv) Spatial Restructuring**
- Spatial and Social Integration:
 - encourage spatial integration between the Riviersonderend Primary Economic Area and the Oostergloed local business node through promoting Alpha and Muller Street as activity streets.
 - strengthen Voortrekker Road as a spatial link between the northern and southern parts of the town.
 - Densification:
 - promote densification measures, i.e. future urban growth is proposed through infill development and extension of the existing urban footprint through subdivisions, second dwellings, etc;.
 - encourage mixed use development along Muller Street, Alpha Street and the N2.
 - New Growth Areas:
 - future urban growth is proposed through infill development and extension of the existing urban footprint in:
 - a northern direction to accommodate residential development;
 - a western direction for urban farming and residential development purposes.

10.2.2 Population Growth and Land Use Requirements

Based on population projections and historic trends for Riviersonderend, the population growth rate was 2.4% per annum between 2011 and 2018. Assuming an average population growth rate with a decrease to 1.5% per annum, which is considered more appropriate, it is estimated that ±13.6 ha of land is required to address the projected housing needs for the next 10 years (a total estimated population of 7 408 by 2033). However, considering the proposed densification measures for brownfield area contained in **Table 10.2** and land required for community facilities, ±16.5 ha of additional greenfield areas is required to accommodate the projected growth.

Table 10.2: Riviersonderend: Projected Land Requirements

Proposed densification strategy			
Densification	Assumption	Units	
Vacant erven	10% vacant erven developed	8	
2nd Dwellings	5% of single residential erven developed	63	
Sub-divisions	5% of single residential erven developed	63	
Sub-total (Density of 25 du/ha):			134 (±5.4 ha) (A)
Residential projections and allocation assumptions:			
Density Category	% of Population	Average Household Size	Density
Low Density	15%	3	15 du/ha
Medium Density	25%	4	25 du/ha
High Density	60%	5	50 du/ha
Subsidy housing	-	5	65 du/ha

Projected residential units and required area up to 2033 (1 025 additional people)				
Density Category	Existing Housing Backlog	Population Increase	Units Required	Land Required (Ha)
Low Density Housing	-	154	51	3.4
Medium Density Housing	-	256	64	2.6
High Density Housing	-	615	123	2.5
Current Subsidy Housing Demand	333	-	333	5.1
Units and area required for residential growth:			571	13.6 (B)
New residential growth area required (including densification): B-A=C				8.2 (C)
Community facilities requirements for the current need and future population growth up to 2033: 6 384 (2023) plus 1 025 additional people = 7 408 (2033) *				
Community Facilities	Population Threshold	Space Requirement per Facility (ha)	Number of Facilities Required	Required Space (ha)
ECDC/Crèche	2 400	0.02	1	0.02
Primary School	4 000	2.8	1	2.8
Secondary School	5 000	4.8	1	4.8
Skills Training Facility	as per need	0.2	1	0.2
Primary Health Clinic	5 000	0.2	-	-
Community Centre	10 000	0.2	-	-
Museum	as per need	variable	1	TBD
Library	400	0.05	-	-

Grass Field	2.3		-	-
Parks (neighbourhood)	0.5 ha/1 000		1	0.5
Fire Station	60 000	0.3	-	-
Police Station	60 000	0.1	-	-
Area required for facilities:				8.3 (D) **
Total greenfield area required (C + D):				16.5 ha

* The CSIR Guidelines (2015) were used to determine the social facilities requirements. The estimated total population for 2033 was used to determine the total number of required social facilities for the additional population between 2023 and 2033. Information on the under supply of social facilities contained in the Social Infrastructure Accessibility Study for the Theewaterskloof Municipality (2018) was also taken into consideration.

** Note that the area could be reduced if community facilities are clustered and shared, e.g. school-shared sportsfield. Alternatively, existing facilities can be upgraded to provide for improved and additional services.

10.2.3 Urban Edge

In determining the urban edge for the Riviersonderend urban area, consideration was given to the following:

- the historic growth patterns and development form, with the town originating along the N2;
- The Sonderend River and its flood plain act as a natural barrier to development in an eastern direction. The environmental sensitivity and steep slopes of the Kleinberg limits urban growth in a northern direction and intensive agricultural land to the south and west of the town (Tygerhoek experimental farm) limits urban growth in both these directions.

- According to projections for Riviersonderend and taking densification measures into consideration, 16.5 ha of additional greenfield area is required to accommodate future urban growth for the next 10 years.

On the basis of the above considerations, the proposed urban edge for Riviersonderend was determined and is illustrated on **Plan 10.1**.

10.2 SECTOR STRATEGY: BIO-PHYSICAL ENVIRONMENT AND AGRICULTURE

The biophysical sensitive environment within the urban edge should be managed and protected from inappropriate urban development. Sensitive and endangered vegetation within the urban edge should be conserved where possible and should be incorporated into open space areas. In this regard, the following areas are of particular importance:

- The patches of Central Rûens Shale Renosterveld and the Cape Lowland Alluvial Vegetation within the urban edge. Key objectives of managing these areas would include the maintenance of the connectivity between the patches and their incorporation into open space areas.
- the riverine environment of the Sonderend River, as well as the wetlands and floodplain associated with the river, which functions as an ecological corridor and linear open space system.

Detailed flood line and environmental sensitivity investigations are required for the Sonderend River near Oostergloed, the piggery and the vacant area surrounding the cemetery to determine the limitations for development in these areas.

The valuable agricultural land to the south and the west of the town must be protected against inappropriate development.

Riviersonderend has a small-scale farmer community who currently reside in the northeastern part of town. Their agricultural activities are the cause of water

pollution of the adjacent Sonderend River due to runoff from the animal feedlots. It is proposed to relocate these farmers to an area in the western expansion area (Area 8 on **Plan 10.1**). The relocation and skills development of these farmers could be a joint venture between TWKM and the Department of Agriculture as part of a potential Local Economic Development programme.

10.3 SECTOR STRATEGY: SOCIO-ECONOMIC

10.4.1 Industrial Development (Light Industry and Service Trade)

One of the key spatial challenges in Riviersonderend is the need to address the undesirable trend of service-related activities infiltrating the residential areas. A proposed light manufacturing / service trade precinct (Area 5 on **Plan 10.1**), located adjacent to the existing industrial area and the combined area should be adequate to sustain business services / light industrial growth. Close proximity to the residential areas should improve the attractiveness of the area for service-related industrial land uses. A total of ±4.1 ha is provided for this land use.

10.4.2 Tourism

The Sonderend Mountain Range and the scenery of the Sonderend River valley, the Kleinberg Mountain and the town's strategic location along to the N2 National Road, provide ideal opportunities for tourism development. Limited tourist attractions, parks and recreation areas currently exist within the town to effectively create growth within the tourism sector.

It is proposed that the Riviersonderend Provincial Nature Reserve should be extended to include the Kleinberg Mountain area and low impact, eco-tourism development should be encouraged. A tourism development strategy is required in order to optimise and unlock the tourism potential of the Riviersonderend area and to integrate the above tourism proposals.

10.4.3 Economic Development

Riviersonderend's Primary Economic Area is shaped in a linear fashion and has developed predominantly along the edges of the N2, which has created certain spatial barriers and development challenges. The focus should be on improving accessibility from Oostergloed towards the Primary Economic Area and addressing the unequal provision of retail and business facilities. An accessible secondary business node should be encouraged and spatially linked with the Primary Economic Area. To increase financial and economic investments and derive maximum economic growth from the N2, the poor sense of place/street quality that currently exist in the Primary Economic Area needs to be addressed.

Commercial and business uses should be directed towards the Primary Economic Area. Land uses related to passing traffic i.e. fuel stations; retail centres, tourist shops, restaurants and accommodation enterprises etc., should be encouraged.

Miller Street and Alpha Street have been identified as important activity linkages/routes between Oostergloed and the Primary Economic Area. Alpha Street links the proposed secondary business node with the Primary Economic Area and pedestrian movement should be improved along this route, which should also improve accessibility to the Primary Economic Area. Secondary commercial activities are proposed adjacent to these streets consisting of mixed land uses, i.e. a day clinic, police station, library, higher density and residential uses should be encouraged to develop along these routes.

High income residential land use options should be considered, such as an equestrian estate, private medical rehabilitation centre, a retirement village, hotel and lodge development etc, in order to broaden the rates base of the town and to encourage investment and growth.

10.5 SECTOR STRATEGY: BUILT ENVIRONMENT

10.5.1 Population Growth and Land Use Requirements

Based on the population projections for Riviersonderend, the estimated

population will be 7 408 by 2033. According to the 2018 MYPE data, the average household size for Rivieronderend was 3.1 persons per household. It is therefore estimated that the total number of households will be 2 399 by 2033.

According to StatsSA (2011), 68.8% of the population is categorised within the subsidised grant segment according to their income. Assuming the current levels are maintained, ±5 097 individuals (±1 650 households) will fall within this segment by 2033. This represents 705 additional people and 228 additional households within this income bracket since 2023. The future land use need for this residential category is therefore an important determinant of the housing pipeline and human settlement sectoral plan.

In order to accommodate the above growth in population, an estimate of 16.5 ha of greenfield area is required to accommodate the projected growth.

10.5.2 Residential

(i) Low density residential development

There is currently sufficient vacant erven located within the urban edge to address the need for low density, high income residential uses.

(ii) Medium density residential development

Infill development opportunities within the urban edge should be encouraged to densify the urban area.

The area north of the existing industrial area (Area 4 on **Plan 10.1**) has also been earmarked as an integration area, where a range of housing typologies can be provided, as well as associated uses. The aim with the integration area is to encourage social integration between the adjacent communities.

(iii) High density residential development

Higher density, subsidised housing is proposed to the south of Alpha Street (Area 2 on **Plan 10.1**). This location is near the Primary Economic Area and

proposed secondary business activities. Two larger areas are also located within the western and northeastern expansion areas (Areas 1 and 3 on **Plan 10.1**).

10.5.3 Cemeteries

The Rivieronderend cemeteries are located south of Berg Street in the northern part of town. There is sufficient space available to accommodate the immediate and longterm future need.

10.5.4 Social Facilities

The projected population growth in **Table 10.2** and the CSIR Guidelines for the Provision of Social Facilities (2015) were used to determine the required social facilities by 2033. Cognisance was also taken of the current and future need identified in the Social Infrastructure Accessibility Study for the Theewaterskloof Municipality (2018). Based on the above, one ECDC, one primary school and one secondary school would be required by 2033. In addition, one skills training facility will also be required. The municipal owned swimming pool site, bounded by Church Street, the N2, Voortrekker Street and Van Riebeeck Avenue, could be redeveloped for such purposes (Area 7 on **Plan 10.1**).

10.5.5 Densification and Development of Vacant Land

Limited levels of densification have been observed in Rivieronderend between the 2012 and 2019 SDFs and this current SDF. The approach and findings of the 2012 and 2019 SDFs with regard to densification therefore remain applicable. High density (25 du/ha) erven smaller than 250 m² are located in the northeastern parts of the town. Second dwelling units (backyard dwellers) exist on most of these erven and further densification should not be encouraged. In the remainder of the town, densification should be achieved by supporting:

- second dwelling units;
- smaller subdivisions,
- demolition and re-development

- infill development, and
- higher density redevelopment on vacant erven within the urban edge.

The following densification guidelines for Riviersonderend are recommended. Refer to **Figure 10.4** for the location of these planning areas.

Table 10.3: Riviersonderend: Densification Guidelines

PLAN AREA	EXISTING DENSITY	TARGET DENSITY	PRIVATE VACANT ERVEN	PUBLIC VACANT ERVEN	PROPOSED DENSIFICATION MEASURE
A	5 du/ha	12 du/ha	31	± 5.5 ha Rem. Erf 290, Riviersonderend.	Densification is proposed through subdivision and second dwelling units. Vacant land is available for higher density development.
B	4 du/ha	10 du/ha	3	-	Mixed use development with residential development on first floor.
C	5 du/ha	7 du/ha	11	± 28 ha Rem. Erf 289, Riviersonderend.	Densification is proposed through subdivision and second dwelling units. Vacant land is available however further studies are required to determine the suitability for residential uses.
D	25 du/ha	35 du/ha	22	-	Densification is proposed by means of subdivision and second dwelling units.
E	12.5 du/ha	20 du/ha	27	±10 ha Rem.	Encourage subdivisions to secure land tenure for back

PLAN AREA	EXISTING DENSITY	TARGET DENSITY	PRIVATE VACANT ERVEN	PUBLIC VACANT ERVEN	PROPOSED DENSIFICATION MEASURE
				Erf 289	yard dwellers.
F	45 du/ha	45 du/ha	0	-	No further densification is proposed.

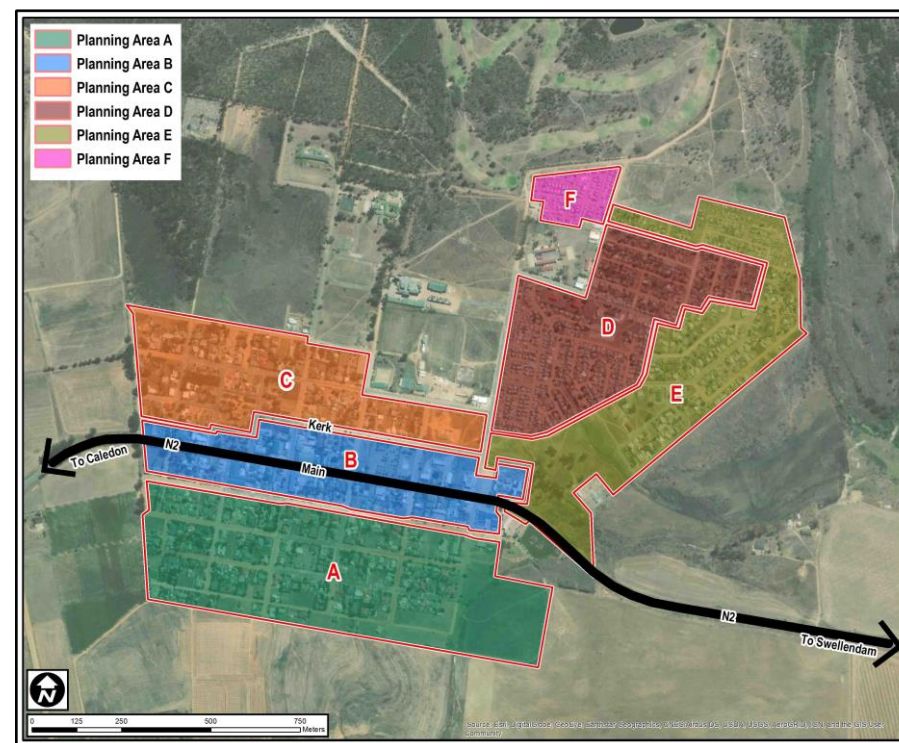


Figure 10.4: Riviersonderend: Densification Planning Areas

10.5.6 Heritage

The village of Riviersonderend was established near the location of the old Vereenigde Oost-Indische Compagnie cattle post called Tygerhoek, which was also a well-known outspan for travellers on the Old Cape Wagon Road. Five precincts with heritage significance are proposed for Riviersonderend:

- Precinct A: Victorian, Edwardian and Georgian architecture can be seen along the N2 and there are a number of clusters of buildings to constitute a valuable streetscape. The Old Mill had however been substantially altered to accommodate a coffee shop.
- Precinct B: A section of de le Vigne Street is characterised by Edwardian and Cape Dutch Revival architecture. Some 1930's Art Deco influences are also noticeable.
- Precinct C: The Dutch Reformed Church (1937) is separated from the N2 by a park (established at the time that the village was developed). The church hall is well maintained and dated 1924. Within the immediate surrounds of these significant buildings there are various late Victorian and Edwardian homes, all of which have been well maintained. Many of the buildings have retained their intrinsic values and should be included in a Heritage Register.
- Precinct D: A section of De Kock and Church Streets contain a cluster of homes, which clearly date from the 1920's and 1930's. Most of them have been extended, but the simpler architectural style of these workers' class homes is still visible and constitutes a valuable streetscape.
- Precinct E: The original school was built in 1928. The original core is now surrounded by later additions, but still has intrinsic value. The Bluegum trees on the school grounds, and presumably the avenue of Bluegum along Voortrekker Road, were planted around the 1930's. The school hostel was built in 1955 and although not yet 60 years old, adds value to the precinct.

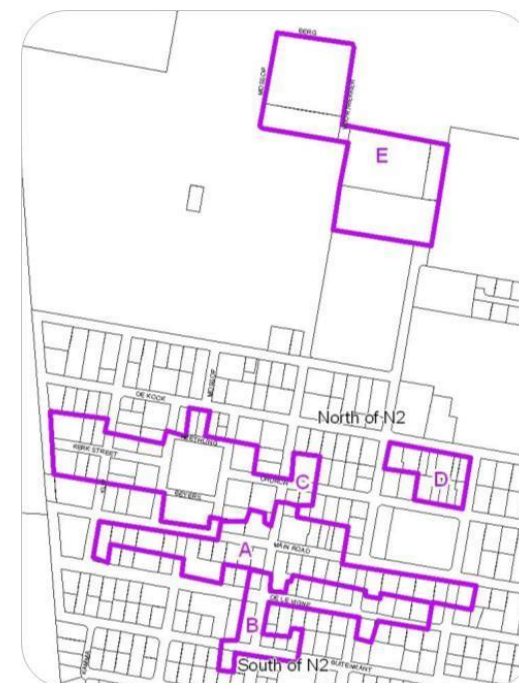


Figure 10.5: Riviersonderend: Heritage Precincts

10.6 SECTOR STRATEGY: INTEGRATION

10.6.1 Spatial Context

Oostergloed is currently spatially and socially isolated from the Primary Economic Area and spatial development to facilitate integration is recommended. The following is proposed in this regard:

- Integration Areas

Priority should be given to link Oostergloed with the Primary Economic Area in order to increase access to social and economic opportunities. Developing Alpha and Muller Streets with low impact mixed uses and NMT facilities should facilitate integration and should improve accessibility to business and community facilities located near the Primary Economic Area.

Infill development must aim to provide a range of erf sizes and tenure options to encourage social integration between different income groups and achieve higher levels of residential density.

Implementation of the densification guidelines (refer **Table 10.3**) and different forms of tenure (i.e. private / individual ownership, co-operative ownership, rental options, rent to buy options, etc) as part of all future residential developments are proposed to promote overall spatial and social integration in Riviersonderend.

- Integration Spaces

The quality of community facilities, i.e. the sport facilities located in De Kock Street and the community hall located in Alpha Street should be improved as places of gathering and integration and the usage thereof should be rationalised between the different socio-economic groups.

10.7 PRIORITY DEVELOPMENT AREAS AND SPECIAL STRATEGIC INTERVENTIONS AND SPATIAL PROJECTS

No Priority Development Areas have been identified for Riviersonderend.

The following strategic interventions have been identified, which require more detailed studies and precinct planning:

- Primary Economic Area revitalisation;
- urban farmers / small-scale farmers.