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NOTICE OF MUNICIPAL PLANNING TRIBUNAL MEETING OF STELLENBOSCH MUNICIPALITY FRIDAY, 2026-04-24 FROM 10:00 - 15:00

VOLUME 3

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APPLICATION FOR SUBDIVISION, CONSOLIDATION AND REZONING IN TERMS OF THE SAID BY-LAW ON VARIOUS PORTIONS OF FARM 183 AND FARM 182, TO FORM THE NORTHEN EXTENSION DEVELOPMENTCONTENT

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DIRECTORATE: PLANNING & ECONOMIC DEVELOPMENT
DEVELOPMENT MANAGEMENT: LAND USE MANAGEMENT

PLANNING REPORT ON APPLICATION IN TERMS OF SECTION 15(2) OF THE STELLENBOSCH MUNICIPAL LAND USE PLANNING BYLAW

Application for Subdivision, Consolidation and Rezoning in terms of the said By-Law on various portions of Farm 183 and Farm 182, to form the Northen Extension Development

APPLICATION DETAILS			
Application Reference	LU/16553	**Commencement Date**	30/11/2023
Applicant	Zutari (Pty) Ltd	**Last day for comments or additional information**	08/04/2026
Farm No	- Portion 23 of Farm 183 - Portion 36 of Farm 183 - Remainder of Farm 182 - Portion of the Remainder of Farm 183 - Portion 1 of Farm 182 - Portion 1 of Farm 183 - Rem of Portion 5 of Farm 183	**Place**	Stellenbosch
Zoning	Agricultural and Rural Zone	**Other approvals**	Consent Use for Freestanding base telecommunication station

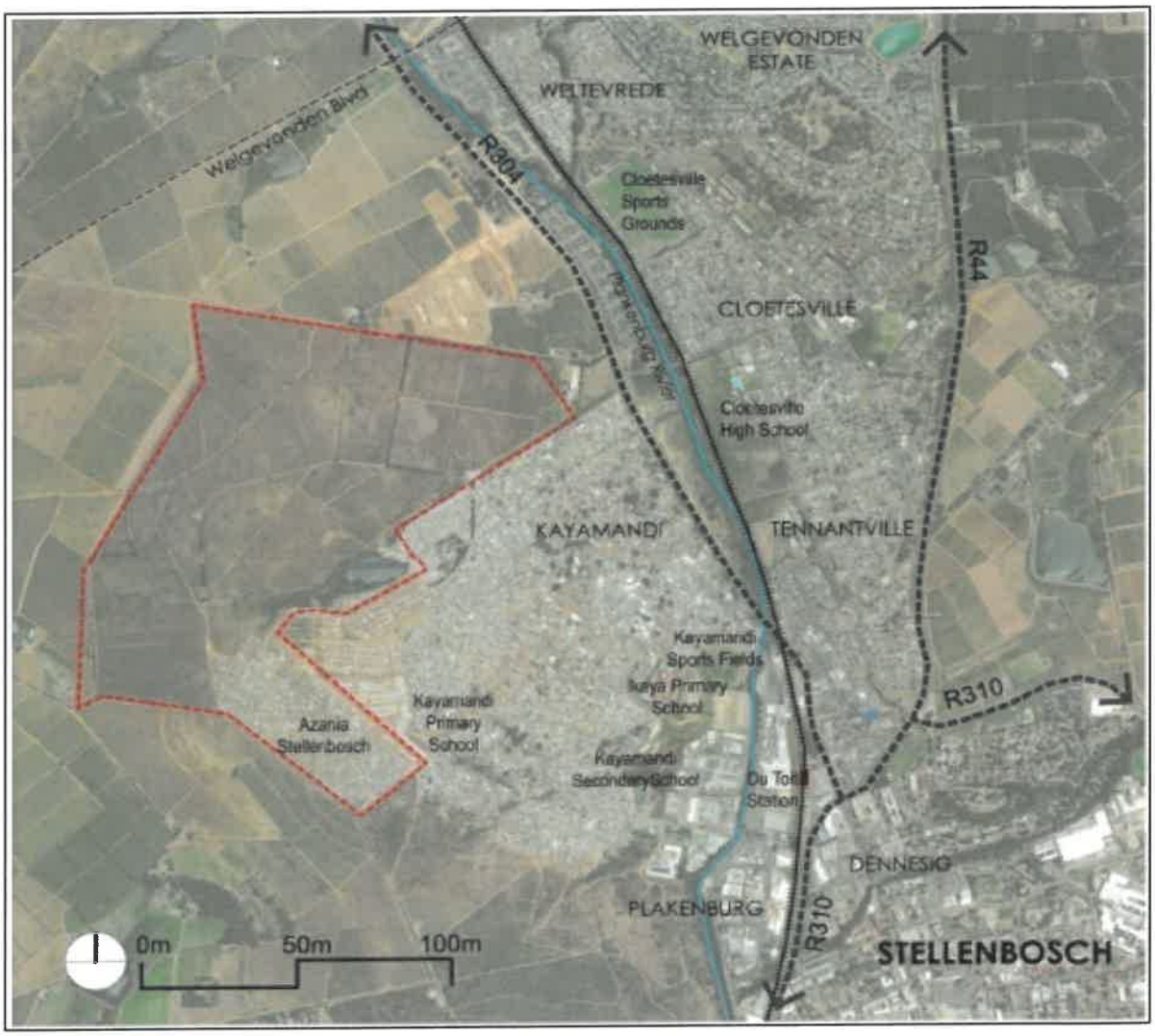
X	TYPE OF APPLICATION
X	15(2)(a) rezoning of land*
	15(2)(b) a permanent departure from the development parameters of the zoning scheme
	15(2)(c) a departure granted on a temporary basis to utilise land for a purpose not permitted in terms of the primary rights of the zoning applicable to the land
X	15(2)(d) a subdivision of land that is not exempted in terms of section 24, including the registration of a servitude or lease agreement*
X	15(2)(e) a consolidation of land that is not exempted in terms of section 24*
	15(2)(f) a removal, suspension or amendment of restrictive conditions in respect of a land unit*
	15(2)(g) a permission required in terms of the zoning scheme
	15(2)(h) an amendment, deletion or imposition of conditions in respect of an existing approval*
	15(2)(i) an extension of the validity period of an approval
	15(2)(j) an approval of an overlay zone as contemplated in the zoning scheme
	15(2)(k) an amendment or cancellation of an approved subdivision plan or part thereof, including a general plan or diagram*
	15(2)(l) a permission required in terms of a condition of approval
	15(2)(m) a determination of a zoning
	15(2)(n) a closure of a public place or part thereof
	15(2)(o) a consent use contemplated in the zoning scheme
	15(2)(p) to disestablish a homeowners' association
	15(2)(q) to rectify a failure by a homeowners' association to meet its obligations in respect of the control over or maintenance of services
	15(2)(r) a permission required for the reconstruction of an existing building that constitutes a non-conforming use that is destroyed or damaged to the extent that it is necessary to demolish a substantial part of the building

NATURE AND SCOPE OF PROPOSED LAND USE APPLICATION

1. Background

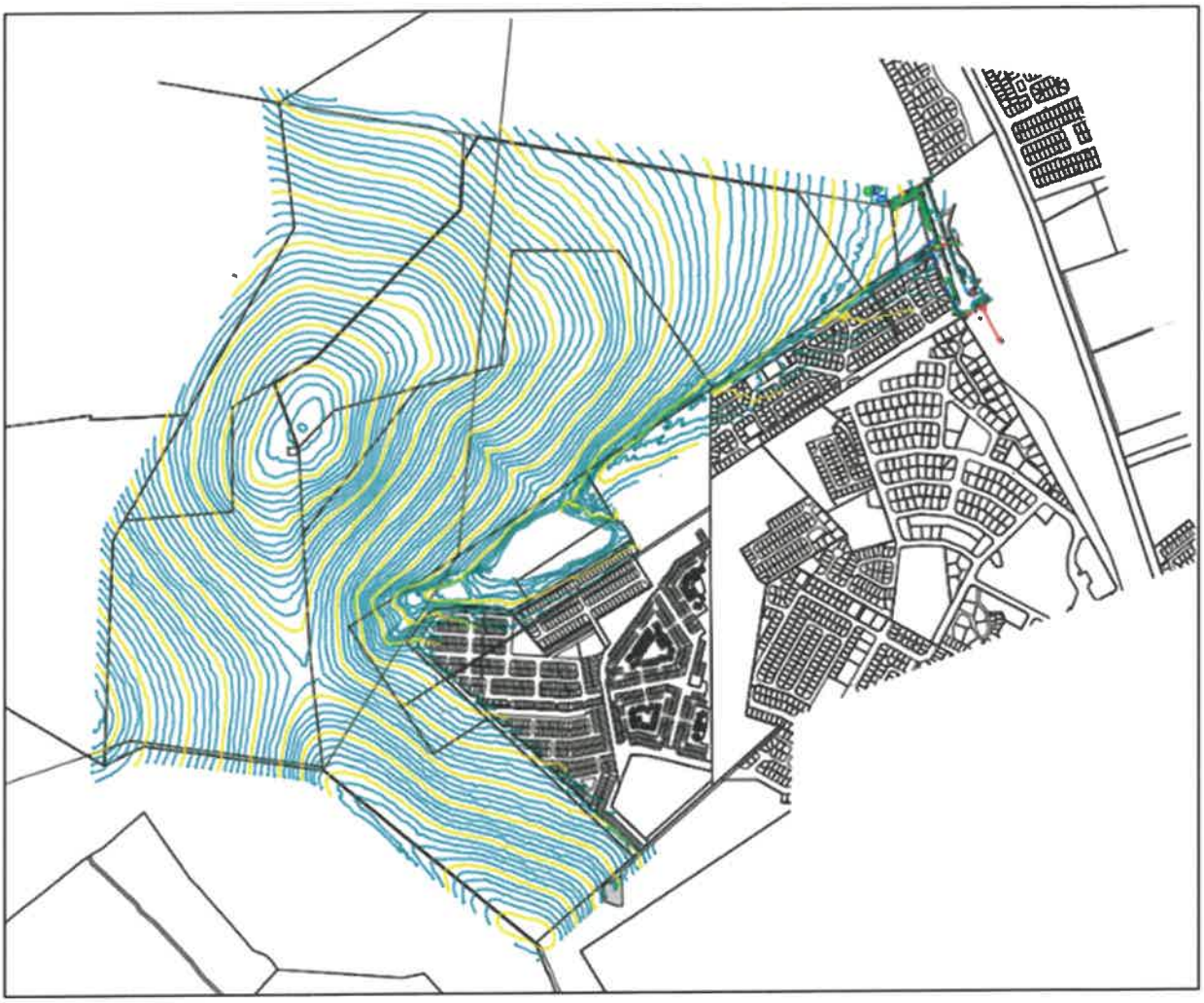
Stellenbosch Municipality appointed Zutari (Pty) Ltd to prepare and submit an application for the consolidation, rezoning, and subdivision of several land parcels located within Precinct 10 of the Adam Tas Local Overlay Area. While the total area of these properties is 351.8075 hectares, the proposed development will only cover approximately 140 hectares.

The subject properties are located west of the R304 and north of Kayamandi, comprising vacant agricultural land with limited infrastructure in the form of powerline servitudes and a radio tower.



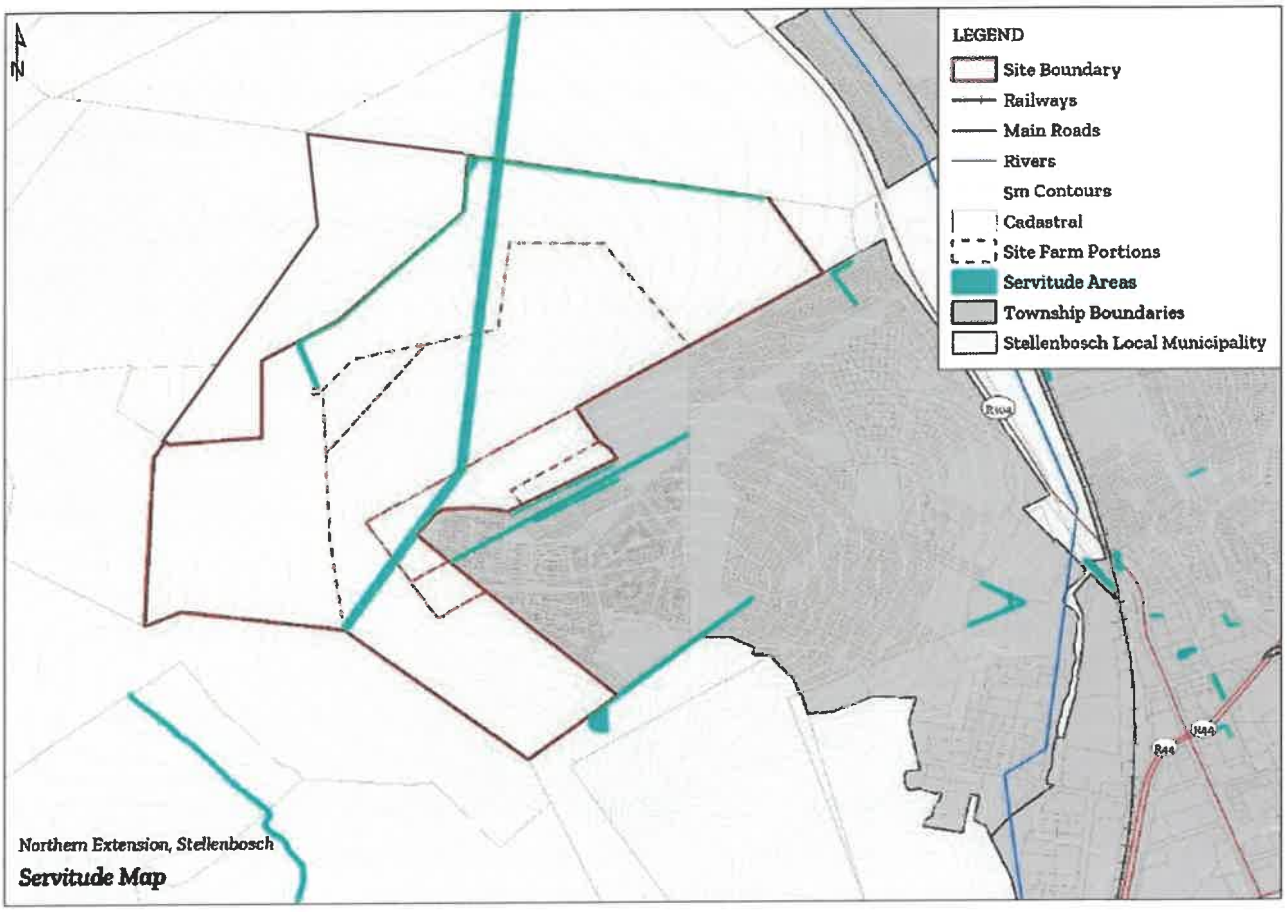
Locality Plan

The topography of the subject property's slopes in a northerly direction toward the R304, characterized by open views, shallow valleys, and natural drainage lines. As illustrated in the figure below, the site features 2-meter contour lines and existing infrastructure, including a central hill with outward-sloping terrain and a small wetland situated on the northeastern portion of the site.



Topographical Map of subject properties

The development area consists of several land parcels of land of varying sizes. Although one of these parcels, Remainder Farm 183 is particularly large, only 60.2 hectares of this property will be included in the proposed development. There are no restrictive title deed conditions that would impede the proposed development as the existing servitudes have been considered by incorporating them into the proposed design.



Servitude Plan

2. **Application submitted for consideration is for the following:**

a) **Subdivision** of the Remainder of Farm 183 into two Portions, Portion A and the remainder in terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015.

b) **Consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion A of Remainder of Farm 183 (as subdivided) , Portion 1 of Farm 182, Portion A of Farm 183, and the Remainder of Portion 5 of Farm 183 to form one property, in terms of Section **15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015,

c) **Rezoning** of the consolidated property from Agriculture and Rural Zone to Subdivisional area, in terms of Section **15(2)(a)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, to permit the following land uses:

- Conventional Residential Zone
- Less Formal Residential Zone
- Multi-unit Residential Zone
- Public Open Space Zone
- Transport Facility Zone
- Mixed Use Zone

- Education Zone
- Agriculture and Rural Zone
- Utility Zone
- Community Zone
- Public Roads and Parking portions

as indicated on the proposed Northern Extension Development Plan attached as **Annexure B.**

d) **Subdivision** of the consolidated unregistered property into 45 portions in terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law, in accordance with the proposed Northern Extension Development Plan attached as **Annexure B.**

e) Approval of the Phasing Plan.

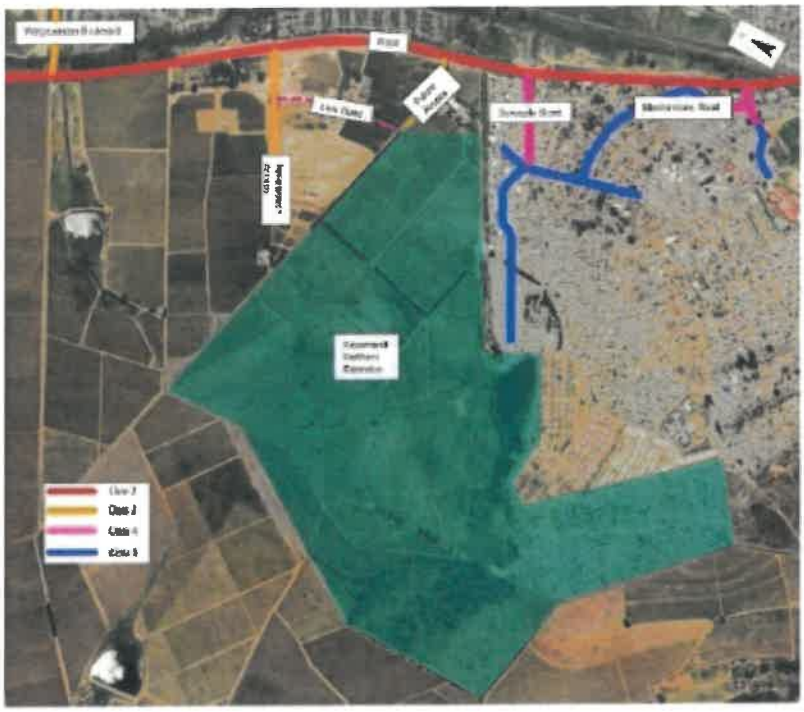
The initial land use application was amended following the public participation process to exclude the approval of the subdivision plan as noted in the POE. The Land Use Section however has included the partial approval of the subdivision plan due to the fact that two education-zoned portions within the development have been identified by Council as areas intended for alienation and subsequent development by the private sector. Furthermore, a portion of the development site is currently occupied by informal residential units, which are to be provided with basic services and also forms Phase 1 of the development. The provision of such services is expected to contribute to the improvement of existing living conditions for this segment of the community.

3. Development Proposal

a) The proposed development will be implemented in phases, with the pace and extent of each phase guided by market demand, funding availability, and infrastructure readiness. Site access will be provided via the R304 and the Kayamandi road network via the extension of iSiKolo Road, establishing a direct link between Newinbosch and Kayamandi, while also connecting both areas to the R304.

b) Further integration with Kayamandi will be achieved via an internal network of link roads and pedestrian pathways that traverse the strategic placement of the open spaces throughout the development. Plans to upgrade the R304 to a dual carriageway between Kayamandi and the R44 have been under consideration for several years, with both the Stellenbosch Roads Masterplan and the latest Comprehensive Integrated Transport Plan (CITP) recommending these upgrades to accommodate increasing traffic volumes driven by developments such as Newinbosch.

c) Stellenbosch's ongoing growth and urban expansion have highlighted the pressing need for a more inclusive and sustainable housing solution that caters to a diverse range of income groups. In response, the Municipality has identified Precinct 10 – Northern Extension as a strategic location for the development of a mixed-income, integrated human settlement. This area offers the necessary scale, accessibility, and proximity to existing infrastructure and services to support residential expansion.



Road Network Plan & Area of Development

d) The proposed development seeks to establish a variety of housing typologies, including fully subsidised units, social housing, gap housing, and market-related options comprising approximately 4,500 housing opportunities. To ensure a sustainable and well-balanced urban environment, the development framework also incorporates a variety of complementary land uses. These include commercial sites intended to support local business activity and generate employment opportunities, as well as educational facilities such as schools to meet the learning needs of future residents. Furthermore, the inclusion of community facilities such as clinics, recreational spaces, and places of worship will promote social cohesion and enhance the overall quality of life within the development.

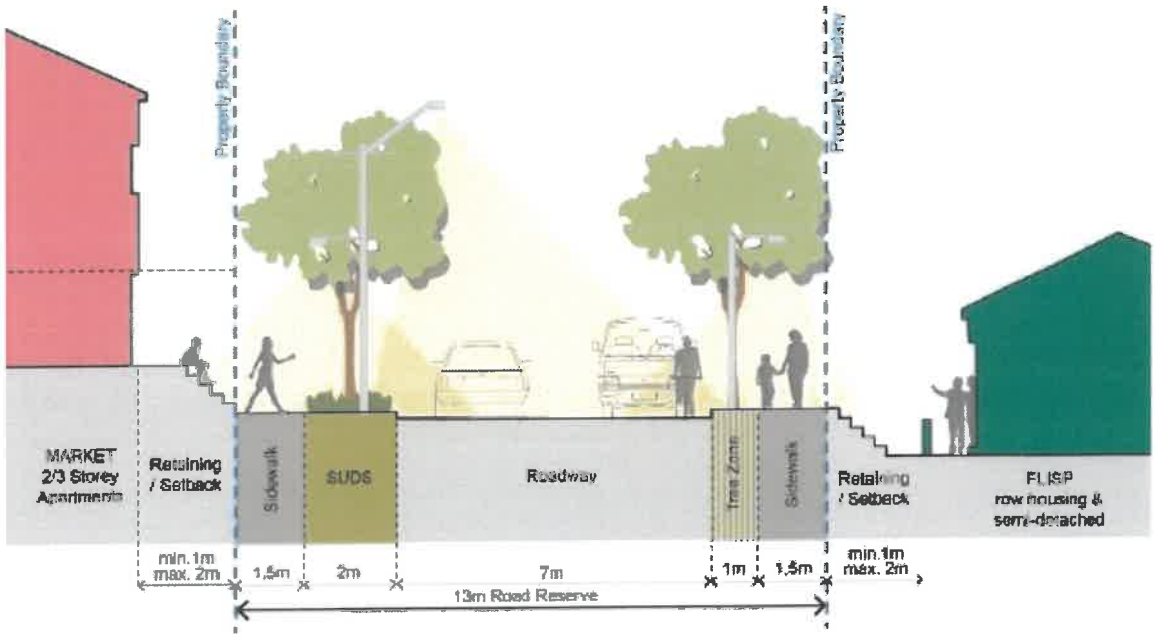
e) The development vision is to create an urban development that is a piece of Stellenbosch, integrated and connected into its context. A development that is safe and secure, with a dignified living environment that provide a diverse range of housing, recreational, social and has economic opportunities for communities living on and around the area.

f) The submitted urban design framework aims to achieve flexible development blocks that support a variety of development typologies that are site specific, with a system of links and connections to support integration across the site and surrounding areas, with a variety of mixed uses inclusive of integrated open space systems with existing natural features.

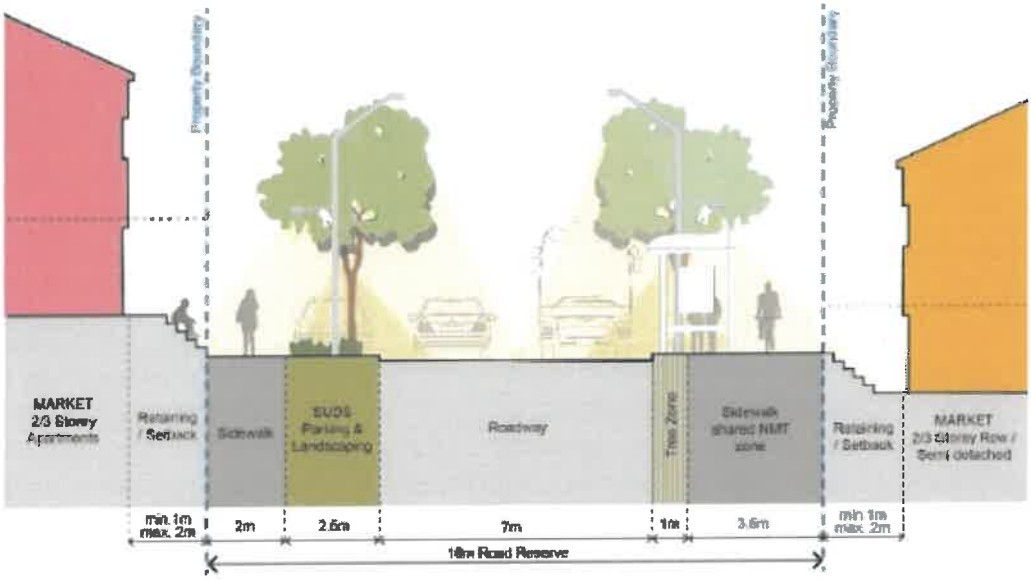
g) The application under consideration is for the rezoning of the consolidated unregistered property to subdivisional area and the subdivision into various development parcels, with a phasing plan to facilitate the development of the various portions proposed. The implementation of the development will be dependent on the availability of funding as well as the availability of the relevant bulk infrastructure.

h) A block approach has been adopted to allow street blocks to be subdivided and developed, thereby accommodating different land uses, building typologies, and densities. This adaptable framework will enable the development to respond to changing needs. A range of housing typologies and erf configurations will ensure flexibility across market as it makes provision for varying income groups, financing options, densities, and housing mixes. This approach has been adopted to ensure that the principles as outlined in the Adam Tas Corridor Development Guidelines are adhered to.

i) The urban design framework makes provision for a 16m-wide primary boulevard framed by higher-order building typologies. A clear hierarchy of streets ensures access and connectivity to all development parcels, comprising secondary and tertiary streets with 13m and 10m road reserves, and local residential streets with having an 8m road reserve forming the lowest order in the hierarchy. Below are typical street cross sections illustrating what is being proposed.

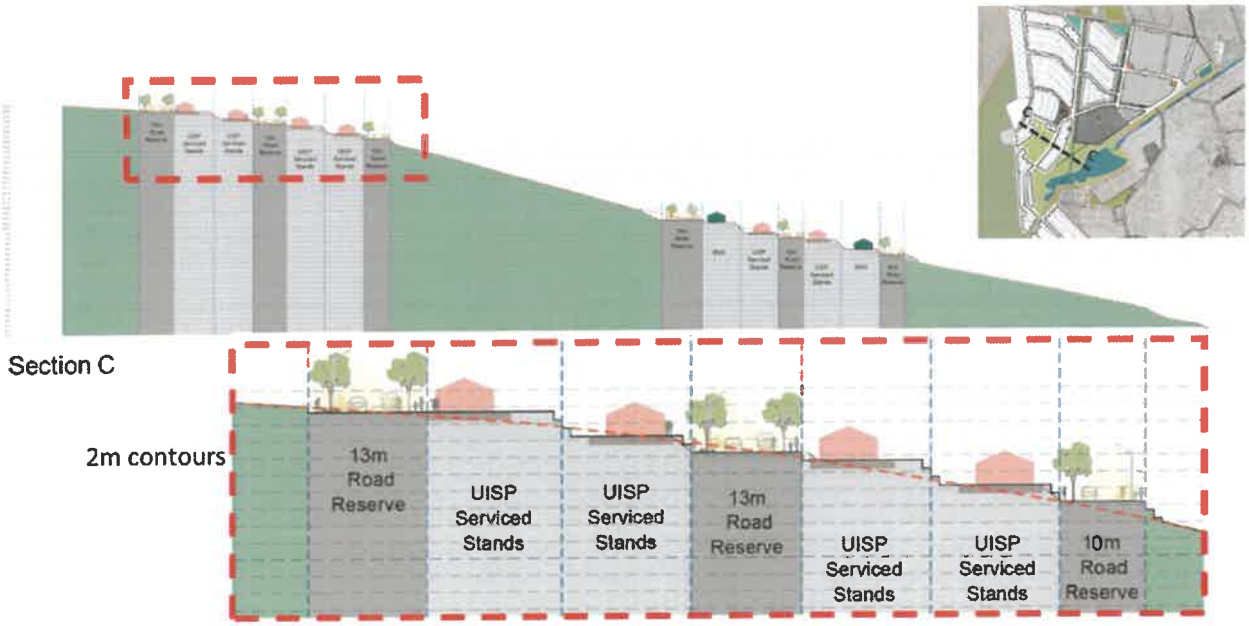


Typical 13m Wide Road Reserve Sections within the development



Typical 16m Wide Road Reserve Sections within the development

j) The design of the proposed development has responded to the sloping topography of the site in that streets have been orientated with the contours and steep sloping areas with a slope greater than 1 in 4 having been excluded from being developed as illustrated below:



Typical Section Through the Site

4. Specialist studies undertaken

	Specialist Study	Purpose and Key Findings	Implications for Development
1	Urban Design Framework	Prepared to guide the spatial structure and land-use distribution of the development. Established structuring routes, public spaces, mixed-use nodes and integration with surrounding areas.	Guided the layout of residential areas, open spaces and transport routes and ensured alignment with natural features such as slopes and drainage lines.
2	Heritage Impact Assessment	Undertaken to identify heritage-sensitive areas and assess potential impacts on cultural resources.	Identified areas requiring development controls and informed the need for site-specific planning measures.
3	Geotechnical Investigation	Assessed soil conditions and founding characteristics across the site. The site was generally classified as NHBRC Site Class S1 with favorable founding conditions.	Confirmed general suitability for development subject to appropriate foundation design and construction monitoring.
4	Flood line Determination Study	Determined the 1:50 and 1:100 year flood lines along watercourses using hydrological modelling.	Informed development setbacks and ensured that structures are located outside flood-prone areas.
5	Civil Engineering and Stormwater Study	Assessed bulk water, sewer and stormwater requirements. Stormwater design incorporates SuDS elements including swales and attenuation ponds.	Identified infrastructure upgrades and confirmed stormwater management strategies required for the site, as noted in the comments received from the Directorate Infrastructure Services.
6	Electrical Engineering Study	Determined electrical demand requirements and identified supply from existing substations.	Confirmed the need for switching substations and phased electrical infrastructure upgrades.
7	Traffic Impact Assessment	Evaluated the impact of the development on the surrounding road network and assessed access requirements.	Identified required road upgrades and confirmed access from surrounding road networks including the R304, as noted in the comments received from the Directorate Infrastructure Services and Western Cape Department of Infrastructure, Chief Directorate: Road Planning.

a) The specialist engineering investigations identified the requirement for bulk infrastructure upgrades in support of proposed development. These upgrades require improvements to water supply, sewer networks, electrical supply and stormwater management systems.

b) A new reservoir with an estimated capacity of approximately 10 ML is also required to supply potable water to the residents of the development area. Sewer infrastructure upgrades are also required and stormwater management infrastructure, requiring the construction of attenuation ponds, bio-retention areas and drainage systems designed to manage runoff volumes and protect downstream environments.

c) The electrical infrastructure will also need to be expanded through the provision of additional switching substations and distribution networks implemented in phases. The collective findings of the specialist studies confirm that the site is generally suitable for development, subject to the implementation of recommended mitigation measures, with the relevant infrastructure upgrades as noted above.

d) The internal road network has taken the topography of the site into consideration, and the servitude areas form part of the public road and open space network ensuring optimal use of the servitude areas.

e) The proposed development is expected to contribute to the provision of much-needed housing opportunities within the Stellenbosch municipal area while ensuring that infrastructure planning, environmental management and spatial integration objectives are achieved.

5. Application process

The course of the application process is briefly outlined below as background to the passage of time and changes made.

December 2023	Land Use Application submitted
January 2024	Land Use Application advertised for public comment
July 2024	Layout changed because of the detailed design of the reservoir and pipeline under construction
December 2024	Application motivation was amended
May 2025	Layout plans were amended based on comments received and aspects relating to the 3rd access point
August 2025	Updated TIA and civils engineering report requested to be included in 2nd Draft BAR
September 2025	Updated TIA received
October 2025	Updates civils engineering report received
November 2025	2nd Draft BAR public participation process
March 2026	Comments from WCG Department Infrastructure: Road Planning received
April 2026	Comments from Directorate: Infrastructure Services
April 2026	Layout plans confirmed

ASSESSMENT CHECKLIST			
CONSIDERATION CRITERIA	**YES**	**NO**	**Comments, if any**
Accurate intergovernmental and public participation process followed		X	The application was advertised in the written media and a site notice place on site on 25 January 2024. The application was circulated to the relevant internal departments and notices were served on certain external departments for comment. Due to an administrative oversight notices were not serviced to the following external departments and the Authorised Official considered the condonation of the errors or omissions in the processing of the land use application: a) Department of Environmental Affairs & Development Planning b) Department of Environmental Affairs & Development Planning (Development Management Region 2) c) WCG Department of Agriculture-Elsenburg d) Department of Agriculture e) Heritage Western Cape f) Department of Water Affairs and Forestry The relevant departments have been duly informed of the proposed application, as the proposal formed part of the advertisement and circulation process undertaken during the Environmental Impact Assessment (EIA), which is currently underway. Through this process, the departments were afforded the opportunity to review the proposal and to submit comments, inputs, or concerns within the prescribed timeframe. This process ensures that departmental considerations are incorporated as part of the EIA process and informs decision-making by the relevant authorities.
Conditions imposed by departments	X		a) Directorate Infrastructure Services b) Western Cape Department of Infrastructure, Chief Directorate: Road Planning provided comment on the EIA with conditions, which comment is attached as **Annexure G**
DCs applicable	X		To be determined per phase
Objections received		X	A total of **two (2) written comments** were received during the public participation process, together with **two (2) requests for meetings** submitted by interested and affected parties seeking clarification on several concerns relating to the proposal. These requests were accommodated in order to promote transparency and to ensure that stakeholders were provided with an adequate opportunity to raise and discuss their concerns directly with the project team. In addition to the above, **consultative meetings were held with the Similan / Newinbosch development team**, as recorded in the **Public**

			Participation Report / Proof of Engagement (POE) attached as **Annexure L.** These engagements formed part of the ongoing stakeholder consultation process and were aimed at addressing project-related matters, clarifying technical aspects of the proposal, and ensuring alignment where relevant with surrounding or adjacent developments. All comments received during the public participation process were formally recorded and considered. The **comments submitted by stakeholders**, together with the **Applicant's detailed responses thereto**, are included in this report as **Annexure J and Annexure K.**
Proposal complies with applicable laws, policies, guidelines, the IDP and SDP and/or technical requirements in terms of Section 65	**X**		At national level, the Spatial Planning and Land Use Management Act (SPLUMA) is complied with, as the proposal introduces an inclusive housing typology; close to existing infrastructure and services, removes pressure from high-value agricultural land, reduces urban sprawl, optimises existing bulk infrastructure targeted for upgrades, increases ecological and agricultural resilience, which further aligns with the IDP, MSDF, EMF, CEF and settlement hierarchy. The proposed development falls within the Priority Human Settlements and Housing Development Area (PHSHDA), and the restructuring zones of both national and provincial human settlements. In addition, the development forms part of the Precinct 10 of the Adam Tas Corridor (ATC) and is seen as the settlement restructuring element forming part of the urban intensification corridor which links Kayamandi with Stellenbosch central along the R304. The proposed development is considered to be consistent with the strategic planning objectives and land use directives contained within the **Municipal Spatial Development Framework (MSDF)**, as well as the **Adam Tas Corridor Local Spatial Development Framework (LSDF)** and the applicable **Local Area Overlay Zone** provisions.

MSDF COMPLIANCE

The Stellenbosch Municipal Spatial Development Framework (MSDF) designates the proposed development area as **"Mixed Use Community Residential Infill Area"** as well as **"Green Areas Retained."**

The designation of **"Mixed Use Community Residential Infill Area"** provides for mixed-use infill densification within the existing urban environments, with the objective of promoting compact urban development, expanding residential opportunities, improving accessibility to services and amenities, and curbing urban sprawl.

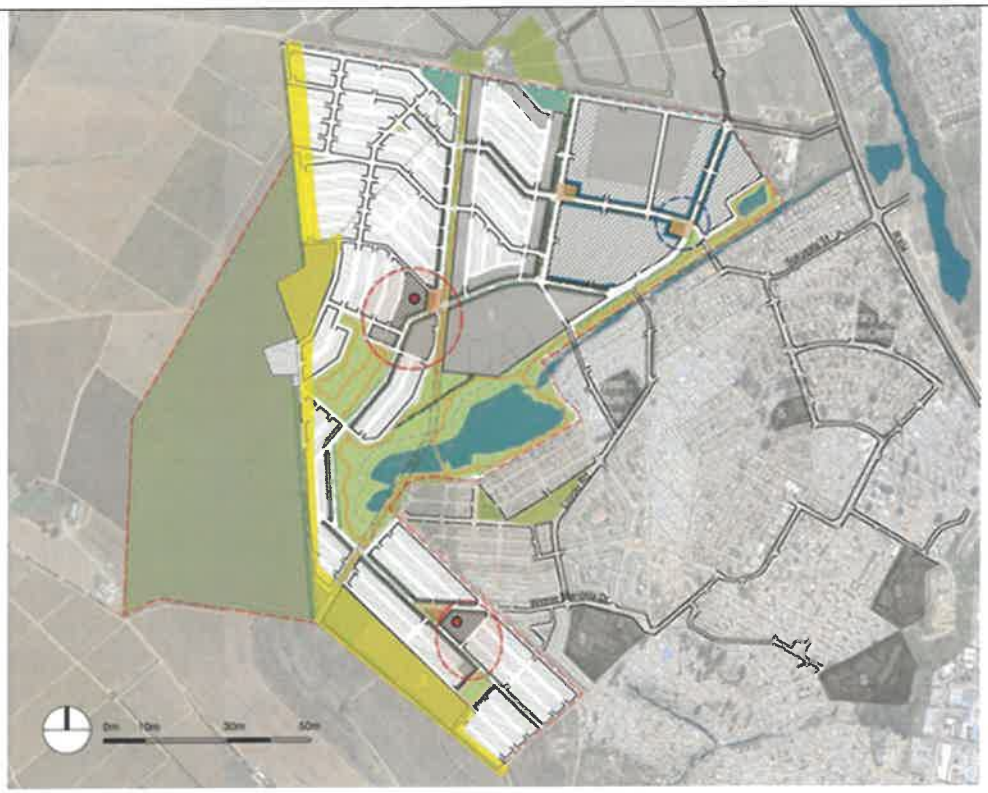
The Stellenbosch Municipality is currently experiencing a significant housing demand, with more than 22000 households identified within the medium- to low-income brackets. In response to this demand, and to promote the development of well-located land, the MSDF designation aligns with the

Stellenbosch Municipality Housing Pipeline for the Medium-Term Revenue and Expenditure Framework (MTREF) 2023–2026 period, which was formally adopted as part of the MSDF in June 2023.

The MSDF principles are a critical planning anchor for the SM to achieve its strategic objectives:

MSDF Principles	Proposal Compliance
1. Preservation of Agriculture, Water, Biodiversity resources	– The site is currently not used for agriculture. – It falls within the urban edge and is suited for non-agricultural urban-supportive land uses. – The Basic Assessment Report (BAR) identifies remnants of wild olive in the drainage line that leads into the existing dam, however it is degraded and infested with invasive alien vegetation. – The BAR indicated only one no-go area, which includes the remnant wild olive trees and the associated habitat and watercourse. – The development proposal identifies these areas for inclusion into the public open space network (POS) within portion 42 (±4.11ha), portion 18 (±13.04ha), portion 15 (1.45ha), portion 12 (1,15ha), and other POS portions (±1.82ha). A total of ±21.57ha of the developable site will be restored and rehabilitated into a POS network. – The mixed-use development proposal considered the flood lines and watercourses, and no urban related uses are proposed within these areas. – The BAR also found that there are low to moderate risks to the watercourse for the proposed activities, however the development needs to adhere to cogent, well-conceived and ecologically sensitive construction plans with their mitigation measures are adhered to. – The proposed development retains the high potential agricultural land on the western side of the ridgeline. Portion 45 on the subdivision plan encompasses ±32.71 ha and retains conventional agricultural uses with the possibility of hydroponic cultivation. – The proposed phase 1 consisting of portions 1 to 6, which has been designated as green areas retained in the MSDF have been indicated as holding no agricultural value and has limited environmental significance by the specialist studies done as part of the BAR. The site has also been transformed and houses more than 1300 households in an informal settlement. The trade-off for the green areas retained as indicated in the MSDF is contextually more appropriate on Portion 45 as it will maintain the urban-rural buffer. – The preservation of portion 45 for conventional agricultural uses is a critical element for creating a transitional buffer between Stellenbosch town and the surrounding rural/agricultural land. Although the development proposal notes an agricultural facility / training facility in both the HIA and BAR, the final subdivision plan has removed the facility from the development concept.
2. Heritage and Scenic Landscape Protection	– The HIA found no heritage resources intrinsic to the site or within the immediate vicinity of the area. – The site falls within the Devon Valley (western side) and Plankenburg Valley (eastern side) landscape units.

	– The Devon Valley unit is classified as a Grade IIIB and the proposed Agricultural portion (portion 45) in extent of ±32.71ha will have minimal impact and retain this rural landscape. – The Plankenburg Valley landscape unit is classified as a Grade IIIB, however due to the urban infill development currently being constructed, and which is planned for through the Adam Tas Local Spatial Development Framework, Development Guidelines, and Overlay Zone the recommendation is to reclassify the grading to a Grade IIIC. The HIA further concludes that the impact of the proposed development can be regarded as moderate reducing to medium to low with mitigation. The ROD further notes conditions to be adhered to i.e.; – Guidelines to be developed which enforce height restrictions as per the indicators (maximum of 5 storeys) on the lower eastern portion. The guidelines need to address the massing of buildings to avoid over-scaled monolithic structures and submit it to the Heritage Section, Stellenbosch Municipality for approval. – A landscape framework plan addressing at least tree planting and fencing prepared by a suitably qualified landscape architect and submitted to Stellenbosch Municipality for approval is also required. – Development of structures within the eastern portion of the site which may protrude above the ridgeline, and/or development of structures on the western portion of the site (west of the ridgeline) must submit site development plans. The SDPs must indicate building placement, massing and landscaping and should include 3D modelling, where appropriate. – The area indicated in yellow in the image below requires detailed SDPs which should be approved by the Heritage Section, Stellenbosch Municipality. – Proposals for new public/community facilities will require detailed SDP's and all new houses within the yellow area. – The preferred option approved by HWC are indicated below:

	 – Although the development layout has changed significantly, the requirement of the guidelines remains applicable for the eastern portion of the site.
3. Optimal Land Use and Settlement Hierarchy	– The council-approved urban edge explicitly encourages strategic infill development and the provision of essential community facilities in accessible locations. The proposed development is contained within the urban edge, supporting urban development containment and protection of high value agricultural land outside the urban edge. – A portion of the proposed development area is within Precinct 10 of the Adam Tas Corridor LSDF, a development catalytic initiative by the municipality. Precinct 10 functions as the northern gateway into Stellenbosch, predominantly residential with supporting commercial and retail uses. It is envisioned as a low- to medium-density residential area with varied typologies and building heights ranging from 2 to 4 storeys, with the greatest heights along the R304. – The proposed development is located adjacent to three established residential areas, Newinbosch to the north, Kayamandi to the south and Cloetesville to the east. The proposal optimises underutilised urban land that is currently under pressure from invasion. – Stellenbosch, Kayamandi, Cloetesville are identified as key priority development areas. The proposed development supports the development vision for the area, and the additional rights will create a socially mixed urban environment where well-located, affordable housing can be integrated effectively.

	– The proposed development reinforces compact growth, settlement integration, and densification in well located areas; close to jobs, social amenities and transport nodes. – The proposed development introduces residential typologies compatible with the surrounding urban form and maintains the existing role and function of the town. – The proposed development prevents urban sprawl and aligns with the MSDF directive to utilise land within the urban footprint.
4. Community development	- Introduces well-located housing opportunities that benefits low- to medium-income households which are currently underserved. - The proposed development adheres to the inclusionary housing/zoning policy in providing affordable housing to households which are currently underserved. - Provides mixed-use components that enhance inclusion, social cohesion, and shared public spaces and will integrate well with existing areas. - Lies within the catchment of schools, health facilities, recreation spaces, and employment opportunities. - Improves public-transport accessibility and supports NMT-oriented living. - Potential to enhance safety of informal dwellers through formalised and well-planned housing development while also improving street frontage and creating passive surveillance.
5. Improved mobility and access	– Located along the Baden Powell-Adam Tas-R304 Transit Orientated Development Corridor. – High-density mixed residential uses support increased public transport viability. – Within walking distance of taxi ranks, existing rail station, future rail station, and employment opportunities. – Will require intersection upgrades, NMT enhancements, and improved public-transport integration. – Supports MSDF principles promoting walkable, transit-supported neighbourhoods. In considering these aspects, the proposed development currently has access constraints for the development (one access point) via Newinbosch and shows limited integrated with the existing settlement (Kayamandi). Further access points will need to be considered as part of the further application phases.
6. Focus development on critical lead projects	- Although partially greenfield, the project aligns with major municipal investment priorities. - It reinforces the CEF's 10-year infrastructure strategy. - Supports the MSDF, IDP, Housing Pipeline, and ATC visions. - Strengthens long-term infrastructure efficiency by developing within an existing serviced area. - Contributes to spatial transformation and delivery of catalytic, inclusive housing opportunities.

DESIRABILITY CONSIDERATIONS IN TERMS OF SECTION 65 OF THE BYLAW	
Socio-economic impact	The estimated number of households in Stellenbosch is projected to increase from 37,126 in 2024 to 42,136 in 2030. Kayamandi is expected to continue to be a key area of household growth, which can be seen in the proliferation of backyard dwellings and informal settlement growth (about 10 674 informal structures) on its boundaries. There are an estimated 10674 informal structures in Stellenbosch with about 95% identified in Kayamandi with those in Watergang Informal Settlement (Azania) at a density of 71ha-121ha per density. Furthermore, backyard dwelling patterns show a high concentration in Kayamandi as well. This highlights the ongoing pressure and need for well-located (close to jobs, transport and social networks) affordable housing opportunities. The proposal will facilitate the provision of a **diverse range of affordable and mixed-income housing opportunities**, together with the necessary supporting infrastructure, community facilities, and associated amenities. This integrated approach to development is expected to contribute positively to addressing existing housing needs within the area, particularly by expanding access to well-located residential opportunities for households across varying income levels. In addition to the housing component, the inclusion of supporting infrastructure and community-oriented facilities will enhance the overall functionality and liveability of the development. The provision of amenities such as public open spaces, community facilities, and essential services will contribute to the creation of a well-balanced and sustainable living environment that promotes social interaction, accessibility, and community cohesion. Overall, the proposal is anticipated to have a **positive impact on the social wellbeing of the surrounding community**, by improving access to adequate housing, enhancing the quality of the built environment, and supporting the development of an inclusive and socially integrated neighbourhood.
Compatibility with surrounding uses	The proposed development directly advances the Municipality's mandate for the delivery of well-located, mixed-income housing within established urban areas, aligned with infrastructure availability and spatial-transformation objectives by providing well-located, affordable housing targeted at the low- to medium-income segment. Its location within an established residential node, with existing blue, green, and red infrastructure, makes the proposal both operationally efficient and strategically justified. The proposal is aligned with the objectives and development directives contained within the **Adam Tas Corridor (ATC) Local Spatial Development Framework (LSDF)**. The intended mixed-use and residential development supports the strategic vision of the ATC LSDF,

	which promotes appropriately scaled, integrated, and mixed-use development within the corridor in order to enhance spatial integration, support economic activity, and will optimize the use of available land and infrastructure.
Impact on the external engineering services	The proposal is supported by the Directorate: Infrastructure Services, with specific infrastructure upgrades being required which will be triggered / determined as the phases are developed. The proposed development aligns with the CEF by expanding residential opportunities as well as public facilities within a growth node, complementing other planned municipal investments, and supporting long-term financial sustainability through efficient use of existing infrastructure networks.
Impact on safety, health and wellbeing of the surrounding community	The proposal is anticipated to have a **positive impact on the overall wellbeing of the community**, primarily through the phased delivery of formal housing opportunities that will contribute toward addressing the significant housing demand within the surrounding area and Stellenbosch. As the various phases of the development are implemented, formal residential units will be made available, thereby providing access to adequate and secure housing. The introduction of formal housing stock will play an important role in alleviating the existing housing pressures, reducing reliance on informal accommodation, and supporting the creation of stable and sustainable living environments. The phased approach to development will also allow for the systematic provision of supporting infrastructure and services, ensuring that housing delivery is aligned with the availability of essential amenities and municipal capacity.
Impact on heritage	The Stellenbosch Heritage Inventory identifies the site as being part of the Devon Valley landscape unit. This landscape contains notable scenic and cultural-historical qualities (the western portion), as well an already transformed area (to the east). The most prominent conservation worthy aspects of the unit are the expansive views overlooking the valley towards Simonsberg from the R304 urban scenic route creating an urban-rural visual continuum. The proposed developments sites, however, hold limited intrinsic heritage or scenic sensitivity. The proposed two four storey development as recommended in the VIA will be compatible with the area's existing and emerging urban character, and its scale and massing will not result in significant visual intrusion within the landscape unit. The proposed development site is **not located within a designated Heritage Overlay Zone or recognised heritage area**, as confirmed through consultation with **Heritage Western Cape (HWC)**. Based on the available heritage mapping and official confirmation received, the site is not subject to any specific heritage overlay controls that would restrict development activities from a spatial heritage planning perspective.

	Notwithstanding the above, a **detailed Heritage Impact Assessment (HIA)** has been undertaken as part of the **Basic Assessment Report (BAR)** currently under consideration by the **Department of Environmental Affairs (DEA)** in terms of the **Environmental Impact Assessment (EIA)** process. The inclusion of the HIA within the environmental assessment process ensures that any potential heritage resources, whether known or previously unidentified, are appropriately assessed and managed in accordance with applicable heritage and environmental legislation. The findings and recommendations contained within the Heritage Impact Assessment will be considered during the decision-making process, and any required mitigation measures or management actions will be incorporated into the **conditions of approval** associated with the **Record of Decision (ROD).** This will ensure that heritage considerations are formally addressed during the implementation phase of the development, thereby safeguarding any identified heritage resources and ensuring compliance with the relevant statutory requirements.
Impact on the biophysical environment	Provincially, the Western Cape Biodiversity Plan (WCBP) directs municipalities to safeguard environmental sensitive land and assets, and channel urban development into appropriate serviced areas; the proposal is partially complaint as it reinforces the critically endangered resources contained in Remainder of Portion 182 and Portion 1 of Farm 183 as it will be preserved and integrated into the development as public open spaces, with proposed development above the 1:100 flood line. Only low impact developments should be allowed in the required 32m buffer zone from a watercourse, ensuring strict mitigation, rehabilitation, buffer establishment and compliance with specialist recommendations in the EIA. The proposed development is anticipated to have a **limited impact on the biophysical environment**, as no **wetlands**, **watercourses**, or **Critical Biodiversity Areas (CBAs)** have been identified within the boundaries of the site. This finding is supported by available environmental screening information and is further reinforced by the historical use of the property, which has been **actively utilised for agricultural activities over an extended period of time**. The long-standing agricultural use of the land indicates that the site has already been subject to anthropogenic disturbance, thereby reducing the likelihood of the presence of sensitive or undisturbed natural habitats. Notwithstanding the above, a **detailed flood line study** has been undertaken as part of the **Basic Assessment Report (BAR)** currently under consideration by the **Department of Environmental Affairs (DEA)** in terms of the **Environmental Impact Assessment (EIA)** process. This specialist study assesses potential flood risks associated with the site and identifies any development constraints or mitigation measures required to ensure safe and sustainable development within areas potentially affected by stormwater or flooding events.

	The outcomes and recommendations of the flood line study, together with any additional environmental management measures identified through the BAR process, will be incorporated into the **conditions of approval** associated with the **Record of Decision (ROD).** This will ensure that all identified environmental considerations are appropriately addressed during the planning and implementation phases of the development, thereby supporting environmentally responsible development and compliance with applicable environmental legislation.
Traffic impacts, parking, access and other transport related considerations	A **Traffic Impact Assessment (TIA)** was undertaken to assess the anticipated increase in traffic volumes associated with the proposed development and to identify the necessary upgrades to the existing road infrastructure. The **Directorate: Infrastructure Services** and the **Western Cape Department of Infrastructure, Chief Directorate: Road Planning** have reviewed the assessment and indicated their support for the proposal, subject to specified conditions relating to the implementation of the recommended infrastructure upgrades and traffic management measures.
Whether the imposition of conditions can mitigate an adverse impact of the proposed use or development of land	The conditions of approval will regulate the development of the property to ensure that it remains consistent with the established residential character of the surrounding area. The application of appropriate development controls, including parameters relating to building design, scale, and permissible land use, will facilitate orderly and structured development of the site. These provisions are expected to ensure that the proposed development integrates effectively with its surrounding context and contributes positively to the overall character, functionality, and quality of the neighbourhood.

Conclusion

a) When assessed against the principles of the MSDF and the criteria listed in Section 65 of the Stellenbosch Municipal Planning By-law (2023), which include desirability, need, compatibility, and spatial alignment, the proposal demonstrates strong compliance and clear public benefit. The proposal demonstrates:
   - Clear need, given the documented housing backlog and affordability constraints.
   - High public benefit, through the delivery of inclusive, well-located social housing,
   - Compatibility with surrounding medium- to high-density settlement patterns,
   - Alignment with strategic spatial-planning instruments (MSDF, CEF, ATC, Housing Pipeline),
   - Efficient use of existing bulk services and infrastructure, and
   - Support for compact, accessible, and integrated settlement development.

b) Within the local contextual factors, i.e. urban infill and catalytic development, development guidelines and landscaping framework requirements have been identified as an appropriate mechanism to mitigate the visual impact of the entire proposed development.

c) Portion 45 will remain as Agricultural and Rural Zone, retaining the integrity of the Grade IIIB landscape unit as approved in the Stellenbosch Heritage Inventory and incorporated in the MSDF and adopted by Heritage Western Cape.

d) Massing, higher densities including proposed buildings exceeding two or more storeys, are contextually more appropriate in the lower eastern portions and accordingly the proposal and location for community facilities should be located and grouped in this section of the development. The proposals for locating higher order urban-related uses on these visually sensitive slopes are not supported and therefor the only phases which adhere to the heritage indicators are phase 1, 2, and 10. The rest of the development needs to be assessed based on the development guidelines and landscape framework to ascertain the compliance with the Heritage Indicators and accordingly based on the lack of mitigating measures, the rest of the phases (phase 2 – 12, excluding phase 10) should first be assessed in more detailed in later application processes.

e) While the site contains sensitive ecological assets (watercourses, CBA1 vegetation) on Portion 12, 15 and 18, which will be restored, rehabilitated and integrated into the public open space network with portion 42 and other POS portions, totaling ±21.57ha of the developable site. Further impact can be managed through other restoration and rehabilitation requirements and EIA-driven mitigation measures.

f) Although the development requires the clearance of high potential agricultural land, the proposed development retains the ±32.71ha of high potential agricultural land on the western side of the ridgeline, Portion 45 with the possibility of hydroponic cultivation.

g) The Plankenburg River is currently severely polluted and regarded as a health risk, due to upstream pollution from the proposed development catchment. Portion 12, 15 and 18 of the proposed development will relocate the informal settlements along this river corridor, rehabilitate the natural water network and integrate it into the proposed development will rehabilitate this natural water system to form an integrated green network web.

h) Based on the assessment of the motivation report and supporting documentation submitted, and the fact that the EIA assessment is still in process the Department ***supports*** the proposed subdivision and consolidation of the relevant farm portions to create the development site, the rezoning to subdivisional area of the site and the detailed phasing plan. The subdivision plan to implement the subdivisional area overlay zone is only **partially supported**.

i) The proposed development seeks to address the urgent and well-documented need for additional educational facilities within the Kayamandi community. The proposed educational components are primarily located within Phase 2 and Phase 4 of the development area. These phases have previously been identified by Council (see **Annexure S** for the Council Item) as suitable portions for alienation and subsequent development by the private sector, thereby supporting the strategic delivery of social infrastructure through public–private collaboration. The provision of additional educational facilities within these phases will significantly contribute to addressing existing capacity constraints within the local education system and will improve access to quality educational opportunities for residents of Kayamandi and the surrounding areas.

j) In addition to the educational component, the proposed development also includes interventions aimed at improving existing residential conditions. In particular, the proposal facilitates the upgrade and formalisation of areas currently accommodating informal residential units. These interventions will include the provision of basic municipal services, such as water, sanitation, stormwater management, and electricity infrastructure. The introduction of these services will result in a measurable improvement in public health, safety, and overall living standards, while also supporting the long-term sustainability and resilience of the affected community.

k) From a broader planning perspective, the application demonstrates a clear and substantiated need and desirability, particularly when assessed within the context of public interest, spatial planning objectives, and environmental considerations. The proposed development supports the optimisation of strategically located land, promotes the efficient use of existing infrastructure networks, and contributes toward the creation of a more integrated and inclusive urban environment. Furthermore, the formalisation of informal residential areas and the introduction of social infrastructure align with national and municipal objectives aimed at addressing historical spatial inequalities and improving access to essential services.

l) It is further noted that the proposal reflects general alignment with the applicable statutory and policy framework governing land use and spatial development within the municipal area. In particular, the development is consistent with the spatial intent and development directives contained within the Municipal Spatial Development Framework (MSDF), which promotes the consolidation of urban areas, the provision of social infrastructure, and the upgrading of informal settlements where appropriate. The proposal also complies, in principle, with the provisions of the Stellenbosch Land Use Planning By-law (2023) and the Stellenbosch Zoning Scheme, subject to the approval of the relevant applications and compliance with applicable development parameters and conditions.

m) Overall, the proposed development represents a strategically justified intervention that responds to identified community needs, supports municipal planning objectives, and contributes positively to both the social and spatial development of the Kayamandi area.

n) Although the application was amended in December 2024 to exclude the subdivision of the development in accordance with the subdivisional area overlay zone, it was however decided to support the subdivision of certain portions to allow the in-situ upgrade of the Azania informal settlement, the education facilities as well as the major utilities. The application for the subdivision of the development area was available for public comment as the application was only amended after the advertising period.

o) The portions of the submitted subdivision plan that are supported by the department are primarily motivated by the urgent need to provide additional educational facilities to serve the Kayamandi community, which are located within **Phase 2 and Phase 4** of the proposed development. These portions have already been identified by Council as portions that are to be alienated and developed by the private sector.

p) **Phase 1** of the proposed development is also supported, as this portion known as Azania is occupied by informal residential units, that are to be provided with basic services, thereby improving current living conditions for this portion of the community. The impact of this settlement on the engineering services has already been absorbed in the infrastructure

networks, and it is not foreseen that the formalization thereof will have a significant additional impact on the bulk service.

q) Upgrades of bulk water supply infrastructure are required to accommodate any development in the area and must be installed upfront. The reservoir (under construction) is located within **Phase 10**.

r) To facilitate access to these priority development areas within the Northern Extension, the main road also forms part of the approval for subdivision.

s) The application generally demonstrates a substantiated need and desirability when considered from a public-interest, spatial-planning, and environmental perspective. Furthermore, the proposal reflects a broad alignment with the provisions of the Municipal Spatial Development Framework, the Stellenbosch Land Use Planning By-law (2023), and the Stellenbosch Zoning Scheme.

t) Notwithstanding the above, certain aspects of the proposal relating to access arrangements, land use distribution, and intensification patterns require further refinement, which can be addressed through appropriate design modifications, relocation where necessary, and strict adherence to the recommendations of the relevant specialist studies, in order to ensure compliance with applicable planning and regulatory requirements.

KEY FINDINGS OF PLANNING EVALUATION

1. The development is located within Precinct 10 of the Adam Tas LSDF and Local Overlay Zone Area, covering a total of 351.8075 hectares, of which approximately 140 hectares are allocated for development.
2. The site is located to the west of the R304 and north of Kayamandi, consisting primarily of vacant agricultural land with limited infrastructure, including a powerline servitude and a radio tower.
3. A central hill dominates the landscape, with foot slopes that extend outward, while a small wetland is situated in the northeastern section of the site, with expansive views, shallow valleys, and natural drainage lines that flow toward the northeast and south.
4. The proposal involves the consolidation, rezoning, and subdivision of several land parcels.
5. Only ±60.2 hectares of the Remainder of Farm 183 (Portion A), will form part of the development area.
6. There are no restrictive title deed conditions, although existing servitudes are present and have been incorporated into the layout of the development.
7. The development will be executed in phases, with the timing of each phase depending on market demand, the availability of funding, and infrastructure readiness.
8. The implementation of Phase 1, Phase 2, Phase 4 and Phase 10 as well as the main connector road are priority development areas within the Northern Extension development and therefor the subdivision of these erven in line with the subdivisional area overlay zone is supported.
9. Access will be provided via the R304 and Kayamandi's road network, with the extension of iSiKolo Road to connect Newinbosch, Kayamandi, and the R304. Additional internal link roads and pedestrian walkways will also aid in improving integration with Kayamandi.

10. According to the Roads Masterplan and Comprehensive Integrated Transport Plan (CITP), the R304 is set to be upgraded to a dual carriageway between Kayamandi and the R44.
11. The development will deliver approximately 4,000 housing opportunities spanning various income groups. It will also include commercial areas, schools, and community facilities to address local housing and service requirements.
12. No objections were received on the application during the public participation process, and the proposal is supported conditionally by the relevant internal and external departments.
13. This area offers the necessary scale, accessibility, and proximity to existing infrastructure and services to support residential expansion.
14. The Municipality has identified Precinct 10 – Northern Extension as a strategic location for the development of a mixed-income, integrated human settlement as proposed.

The subject land use and land development application is, having regard to the conclusions above, viewed as in Compliant and Consistent with the relevant legislative / principles / policy and guidelines of the Municipality inclusive of the MSDF and consequently grounds for the support of the subject land use and land development application.

List relevant plan numbers	• Subdivision Diagram, attached as **Annexure B** • Consolidation Plan, attached as **Annexure C** • Northern Extension Zoning Plan Rev 3 Drawing Number 1001438-ZUT-LL-DRG-TP-NE 000-00, Dated 10/04/2026, attached as **Annexure D** • Northern Extension Phasing Plan Rev 3 Drawing Number 1001438-ZUT-LL-DRG-TP-NE 000-00, Dated 13/04/2026, attached as **Annexure D** • Northern Extension Subdivision Plan Rev 4 Drawing Number 1001438-ZUT-LL-DRG-TP-NE 000-00, Dated 13/04/2026, attached as **Annexure D**
List annexures to report	**Annexure A:** Locality Plan **Annexure B:** Subdivision Plan - Farm 183 **Annexure C:** Consolidation Plan **Annexure D:** Northern Extension Development Plans **Annexure E:** Motivation Report **Annexure F:** Internal Departments Comments **Annexure G:** External Departments Comments **Annexure H:** Traffic Impact Assessment **Annexure I:** Environmental Basic Assessment (BAR) **Annexure J:** Public Comment on Application **Annexure K:** Applicants' comment on the Public Comments **Annexure L:** Portfolio of Evidence **Annexure M:** Heritage Impact Assessment **Annexure N:** Urban Design Framework **Annexure O:** Geotechnical Investigation **Annexure P:** Electrical & Communication Services Report **Annexure Q:** Civil Services Report **Annexure R:** 1:50 Flood Line Report **Annexure S:** Council Item on alienation of the Education Phases **Annexure T:** Assessment by Development Planning: Spatial Planning Section

RECOMMENDATION

1. That the following application(s) in terms of Section 15(2) of the said By-Law on various Portions of Farm 183 and Farm 182, for the Northern Extension, namely:

1.1. **Subdivision** of **Farm 183** into two Portions, in terms of Section **15(2)(d)** of the said By-Law.

1.1.1 **Portion A** (±57 ha) and
1.1.2 **Remainder** (±203 ha consisting of various parcels)

1.2. **Consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion A of Farm 183 (as subdivided), Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 to create the development property, in terms of Section **15(2)(e)** of said By-Law.

1.3. **Rezoning** of the consolidated property from Agriculture and Rural Zone to Subdivisional area, in terms of Section **15(2)(a)** of said By-Law, to permit the following land uses:

1.3.1	Conventional Residential Zone	Phase 6 Phase 7 Phase 8 Phase 12	+-325x120sqm single residential stands (shared with Less Formal Zone) on +-14.3726ha +-371x120sqm single residential stands (+-597 units) on +-11.0546ha +-460x120sqm single residential stands (shared with Less Formal Zone) on +-10.9469ha +-165x120sqm single residential stands (shared with Less Formal Zone) on +-10.1832ha
1.3.2	Less Formal Residential Zone	Phase 1 Phase 6 Phase 8 Phase 12	+- 2500 less formal residential stands/households in the in-situ upgrading of Azania settlement +-266x90sqm less formal residential stands (shared with Conventional Residential Zone) on +-14.3726ha +-179x90sqm less formal residential stands (shared with Conventional Residential Zone) on +-10.9469ha +-135x90sqm less formal residential stands (shared with Conventional Residential Zone) on +-10.1832ha
1.3.3	Multi-unit Residential Zone	Phase 3 Phase 6 Phase 7	+-211 residential units

1.3.4	Public Open Space Zone	Phase 2, 3, 4, 6, 7, 12	+-21.566ha
1.3.5	Transport Facility Zone	Phase 11	+-0.6267ha
1.3.6	Mixed Use Zone	Phase 5	Commercial and +-664 multi storey residential units on +-7.5613ha
1.3.7	Education Zone	Phase 2 Phase 4	+-2.060ha +-4.519
1.3.8	Agriculture and Rural Zone	Remainder	+-32.709ha
1.3.9	Utility Zone	Phase 7 Phase 10	+-0.027ha +-1.6236ha
1.3.10	Community Zone	Phase 9 Phase 12	+-4.5996ha +-0.400ha
1.3.11	Public Roads	Phase 15, 16, 17, 18, 19, 20, 21, 22, 23	10m and 16m public streets

as indicated on the Northern Extension Zoning and Phasing Plans, attached as **Annexure B**.

1.4. **Subdivision** of the consolidated unregistered property **into 24 portions** and the Remainder and the registration of service servitudes in terms of Section **15(2)(d)** of the said By-Law to permit the implementation of the in-situ upgrade of the existing Azania informal settlement, education facilities and major utilities as indicated in Phases 1, 2, 3, 4 and 10 as well as the road portions in Phases 15, 16, 17, 18, 19 and 20.

BE APPROVED in terms of Section 60 of the said Bylaw and subject to conditions of approval.

2. The approval is subject to the following **conditions** imposed in terms of Section 66 of the said Bylaw:

2.1 The approval only applies to the application under consideration and shall not be construed as authority to depart from any other legal prescriptions or requirements from Council or other legislation or Bylaws or Regulations that may be applicable.

2.2 The development be undertaken in accordance with the endorsed Subdivision Plan with reference F183-04-2026 and dated 09/04/2026 to create the development site and attached as **Annexure B**.

2.3 The development be undertaken in accordance with the endorsed Consolidation Plan with reference Plan No: FARM-183-04-2026 and dated 05/04/2026 to create the development site and attached as **Annexure C**.

2.4 The development be undertaken generally in accordance with the endorsed Subdivisional Area / Zoning plan titled Northern Extension Zoning Plan Rev 3 dated 10/04/2026 and endorsed Northern Extension Phasing Plan Rev 3 dated 13/04/2026 with reference 1001438-ZUT-LL-DRG-TP-NE 000-00 and attached as **Annexure D**.

2.5 The development with inclusion of the relevant servitudes be undertaken in accordance with the endorsed Northern Extension Subdivision Plan Rev 4 with reference 1001438-ZUT-LL-DRG-TP-NE 000-00 and dated 13/04/2026 as indicated and attached as **Annexure D**.

2.6 An electronic copy (shp, dwg, dxf) of the approved General Plan or surveyor general diagram(s) be submitted to the GIS Manager in the Directorate Planning and Economic Development for record purposes, which plan indicates the following information in the format as determined:

a) Newly allocated erf numbers
b) Co-ordinates
c) Survey dimensions
d) Street names and numbering

2.7 Proof of such e-mail transmission being referred to in condition 2.6 must accompany any application for a Section 28 Transfer Certificate.

2.8 The consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion A of Farm 183 (as subdivided), Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 occur prior to building plan submission and that the permitted land uses may not be implemented prior to the issuing of a certificate of consolidated title and endorsement of the relevant title deed by the Registrar of Deeds.

2.9 All land designated for the provision of municipal service infrastructure and amenities on the subdivision plan be transferred and registered to the Municipality as owner upon transfer of the first unit/erf in the subdivision phase, of which the cost for the surveying and transfer of such land be for the account of the applicant/developer.

2.10 The servitude rights for the bulk water pipeline and electricity power line be registered in the title deeds of the relevant properties in favour of the Municipality on registration.

2.11 A detailed subdivision plan for the remainder of the Subdivisional Area generally in accordance with the Zoning Plan and related Phasing Plan, inclusive of street names and street numbering, be submitted to the Municipality for approval.

2.12 An amended phasing plan which indicates the spatial phasing and associated timeframe of the remainder of the development may be submitted to the Municipality for approval.

2.13 A subdivision plan be submitted for approval for each of the phases of development, where applicable in accordance with the approved subdivisional area.

2.14 The conditions relating to infrastructure services imposed by the Directorate Infrastructure Services contained in the memorandum with reference LU/11809 and dated 10/10/2026 and attached as **Annexure E**, be complied with prior to the issuing of a Section 28 Transfer Certificate, or the approval of a building plan whichever comes first, to the satisfaction of the said department.

2.15 Development charges are payable in accordance with the prevailing and applicable Council Tariffs at the time of payment prior to the transfer of the first land unit or approval of any building plans, whichever occurs first to the satisfaction of the Directorate Infrastructure Services.

2.16 Should the full extent of permissible development rights, as approved herein-above, not be implemented initially or development is phased, a pro rata development charge will be levied in accordance with the extent to which the development rights will be implemented, provided that the remaining development charges will be levied for the remaining permissible development rights when implemented in future. Remaining development charges will be levied in accordance with the prevailing and applicable Council Tariffs at the time of payment prior to the transfer of the first land unit or approval of any building plans, whichever occurs first to the satisfaction of the Directorate Infrastructure Services.

2.17 A service agreement regarding the responsibilities for the provision of engineering services be entered into with the Municipality prior to the construction of any engineering services or infrastructure in terms of Section 66(3) and Section 82(4) of the said Bylaw, which service agreement includes and complies with the conditions as imposed by the Directorate Infrastructure Services in the memorandum with reference LU/11809 and dated 10/10/2026 and attached as **Annexure E**.

2.18 The conditions imposed by the WCG Department of Infrastructure: Transport Infrastructure Branch in their letter of comment on the BAR during the EIA public participation process with Ref: DOI/CFS/RN/LU/REZ/SUB -25/492, dated 25/03/2026, attached as **Annexure F**, be complied with to the satisfaction of the said department.

2.19 A detailed site development plan (SDP) as contemplated in terms of Section 16 of the Zoning Scheme Bylaw be submitted to the Municipality for each phase or precinct and be approved prior to the submission of any building plans, which SDP satisfactorily addresses, but are not necessarily limited to, all the conditions of this approval, compliance with relevant development parameters of the said Bylaw, any relevant matters relating to Section 16(4) of the said Bylaw, and specifically include the following items and matters:

a) 3D modelling in accordance with the approved Development Guidelines with reference to condition 2.25,
b) a landscaping plan in accordance with the approved Landscape Framework Plan with reference to condition 2.26,
c) an engineering services report to indicate which link and internal service upgrades area triggered,
d) adjacent road portions providing access to the site, although forming part of a different phase be incorporated into the relevant SDP,
e) a traffic impact study to indicate which road upgrade items are triggered,
f) a detailed Non-motorised Transport (NMT) plan in alignment with the Municipality's NMT network as outlined in the NMT Masterplan,
g) adjacent and internal road layout plans to indicate provision are made for traffic-calming and management measures, NMT routes and public transport parking embayment's as well as pedestrian routes which link the development to the adjoining residential area and public roads,
h) the pedestrian link between Kayamandi and the Northern Extension across the Watergang Stream where applicable, and
i) a Stormwater Management Plan (SWMP) and stormwater design drawings.

2.20 The SDP for Phase 1, in addition to condition 2.20, to specifically consider and address the following matters:

a) guiding the incremental construction and installation of structures, shelters, buildings, roads, engineering services, fire breaks etc.,
b) a Temporary Relocation Area Plan (TRA) for residents living in the Watergang (Azania) informal settlement for the relocation of informal settlement structures within the riverine corridor,
c) identify areas for roads and fire breaks, and demarcate an overall block layout which takes account of future movement routes and emergency access lanes and other required land uses,
d) a plan indicating to occupiers where they are permitted to erect dwelling houses, second dwellings and shelters,
e) identify monitoring measures to be clearly demarcated on the property (such as fencing etc.) to prevent the construction of buildings or shelters in these areas as

the Municipality may require structures and shelters to be moved when they are erected within areas indicated for circulation, access, services or for fire safety purposes.

2.21 The SDP for Phases 2, 3, 4 and 12, in addition to condition 2.20, to specifically consider and address the following matters relating to the green areas / riverine corridor:

a) a Construction Environmental Management Plan (CEMP) for the installation of services and any construction be submitted and approved by the Directorate: Community & Protection Services as part of the SDP application process, prior to the approval of any building plan and commencement of any earthworks on the property, as per the mitigation measures identified in the BAR for the applicable portions,

b) a rehabilitation plan identifying monitoring measures to be clearly demarcated on the property (such as fencing etc.) to prevent invasion of the applicable portions, and

c) no development or infrastructure may be placed within the 32 m watercourse buffer, except when approved by environmental authorities and supported by specialist studies' mitigation measures.

2.22 Any landscaping on municipal property be implemented in compliance with the Tree Management Policy to the satisfaction of the Directorate: Community and Protection Services.

2.23 Development Guidelines in line with the Heritage Indicators specified in the ROD from Heritage Western Cape as well as the Urban Desing Framework be submitted and approved by the Development Planning Department: Heritage Resources Section prior to the registration of the first property or the submission of any building plan application.

2.24 The Landscape Framework Plan in line with the Heritage Indicators specified in the ROD from Heritage Western Cape as well as the Urban Design Framework be submitted and approved by the Development Planning Department: Heritage Resources Section prior to the registration of the first property or the submission of any building plan application.

2.25 Building plans for all new structures and for all changes of use in the existing buildings be submitted and approved by the Municipality prior to the commencing of any building works, including the preparation of land, which will only be approved when all relevant (or qualified) conditions of approval have been complied with.

2.26 An application for the street naming and -numbering be submitted and approved (for each phase) by the Municipality prior to the registration of the first property or the submission of any building plan application, whichever occurs first.

3. Matters **to be noted**:

3.1 The approval granted shall not exempt the applicant from complying with any other legal prescriptions or requirements that might have a bearing on the proposed use.

3.2 The implementation process entails the following steps:

3.2.1 Zoning: The allocated zonings in accordance with the overlay zone vest phase-by-phase as subdivision plans are approved. If further subdivisions are required to vest the allocated zoning rights, the base zone will remain in force until the vesting of such subdivision plan.

3.2.2 SDP & Infrastructure: An SDP must be submitted and approved for every phase. Infrastructure requirements will be confirmed with Directorate Infrastructure Services and the WGC Department of Infrastructure: Road Infrastructure.

3.2.3 Subdivision: The Section 28 Transfer Certificate will only be issued after all required infrastructure upgrades are complete. The subdivision vests once the new land unit is registered to the owner following the issuance of a Section 28 Transfer Certificate.

3.2.4 Building Plans: Approval of building plans can only occur after the SDP for that phase has been approved.

3.3 Any subdivision only comes into effect once all suspensive conditions or relevant legislative provisions have been complied with.

3.4 All engineering services and infrastructure required in terms of the conditions and services agreement be complied with to the satisfaction of the Municipality and / or the relevant authority prior to the issuing of a Section 28 Transfer Certificate.

3.5 Sufficient on-site parking be provided in accordance with the provisions of the Zoning Scheme Bylaw and to be illustrated on the subject site development plan [if an SDP must be submitted] or building plan of development to the satisfaction of the Municipality.

3.6 All on-site parking bays be clearly demarcated on the property.

3.7 An application for the erection of advertising signs be submitted for approval to the Municipality and that all signage on the property be erected to the satisfaction of the Spatial Planning Department: Heritage Resource Management [be in line with the signage policy of the Municipality].

3.8 No directional signage be erected without the prior approval of the Provincial Roads Engineer and/or the Municipality.

3.9 Fire mitigation measures be put in place by the developer to the satisfaction of the Municipality.

3.10 Reasonable steps be put in place by the developer to prevent nuisance caused by dust in accordance with the National Environmental Management Act: National Dust Control Regulations.

3.11 Compliance with the approval and related conditions in terms of NEMA as issued by the WCG Department of Environmental Affairs and Development Planning to the satisfaction of the said department.

4. The **reasons** for the decision are as follows:

4.1. The property is located within the approved urban edge, where the MSDF promotes compact settlement, strategic infill, and higher-density residential opportunities along major mobility routes to curb sprawl and improve land-use efficiency.

4.2. The site is located along Bird Street/R304, an MSDF-identified Activity Route with strong vehicular, public-transport, and NMT connectivity, supporting intensification in proximity to transport corridors.

4.3. The eastern portion of the properties form part of the council approved ATC Precinct 10, envisaged for high-density, mixed-use intensification, positioning the site within an emerging, well-connected, mixed-use urban district.

4.4. The proposed residential typologies (two to four storeys) are compatible with the adjacent medium- to high-density neighbourhoods of Kayamandi, Cloetesville, and Mount Simon. The development supports the functional and spatial reasoning of existing and future land-use patterns.

4.5. Stellenbosch Municipality faces severe housing shortages particularly for low- to middle-income households. The proposed development provides well-located mixed use opportunities that will broaden housing typologies and tenure options, support

settlement restructuring, address housing needs and enhance residential opportunities in proximity to jobs and services.

4.6. The proposal aligns with the spatial directives of the MSDF, SPLUMA, Western Cape PSDF, LUPA, EMF, CEF and the Municipal Housing Pipeline. It supports principles related to densification, inclusion, infrastructure optimisation, spatial justice, and compact urban form.

4.7. Stellenbosch is a priority municipal investment node within the CEF, with ongoing and planned infrastructure upgrades. The development leverages existing bulk water, sewer, stormwater, and electricity networks, planned improvements to high-capacity infrastructure, strategic densification targets for Stellenbosch Town. The proposal supports long-term financial and operational sustainability through the efficient use of underutilised land and existing infrastructure.

ASSESSMENT RECOMMENDATION BY TOWN PLANNER

The proposed land use and land development application has been duly evaluated in terms of process and desirability with the recommendation for consideration.

Name: R P Fooy
Capacity: Senior Town Planner
SACPLAN Registration:

Signature:
Date: 14/04/2026

REVIEW OF ASSESSMENT AND RECOMMENDATION

The recommendation for decision is hereby submitted for consideration to the authorised decision-maker in accordance with the Categorisation Model approved vide Item 10.8.1 dd dated 26 February 2025.

Category / Delegation Item Number: A.c.4, D.c.4, E.b.4
Decision Making Authority: MPT
Rational: The application under consideration is to approve development on Council owned property.

Name:
Capacity: SMM
SACPLAN Registration: A/1551

Signature:
Date: 14/04/2026

CONDONATIONS OF ERRORS OR OMMISIONS DURING THE PROCESSING OF THE PLANNING APPLICATION

Authorised Official to condone errors or omissions

As the duly authorised official the error in the processing of the land use and land development application to not serve notices requesting comment on the following external departments:

a) Department of Environmental Affairs & Development Planning
b) Department of Environmental Affairs & Development Planning (Development Management Region 2)
c) WCG Department of Agriculture – Elsenburg
d) Department of Agriculture
e) Heritage Western Cape
f) Department of Water Affairs and Forestry

BE CONDONED in terms of section 63(2) of the said Bylaw.

Reason for the decision:

The relevant departments have been duly informed of the proposed application, as the proposal formed part of the advertisement and circulation process undertaken during the Environmental Impact Assessment (EIA), which is currently underway. Through this process, the departments were afforded the opportunity to review the proposal and to submit comments, inputs, or concerns within the prescribed timeframe. This process ensures that departmental considerations are incorporated as part of the EIA process and informs decision-making by the relevant authorities.

Name: Stiaan Carstens
Capacity: SMSM

Signature:
Date: 14/04/2026

MPT ADMINISTRATION OF PLANNING APPLICATION ASSESSMENT REPORT

Administrator to Stellenbosch Municipal Planning Tribunal:

It is hereby confirmed that proper notice was served of the Municipal Planning Tribunal meeting at which this land use and land development application will serve for consideration.

The land use and land development application will serve at the scheduled meeting of the Stellenbosch Municipal Planning Tribunal on:

Date: 24-04-2026

Name: Chizelle Kriel
Capacity: MLM

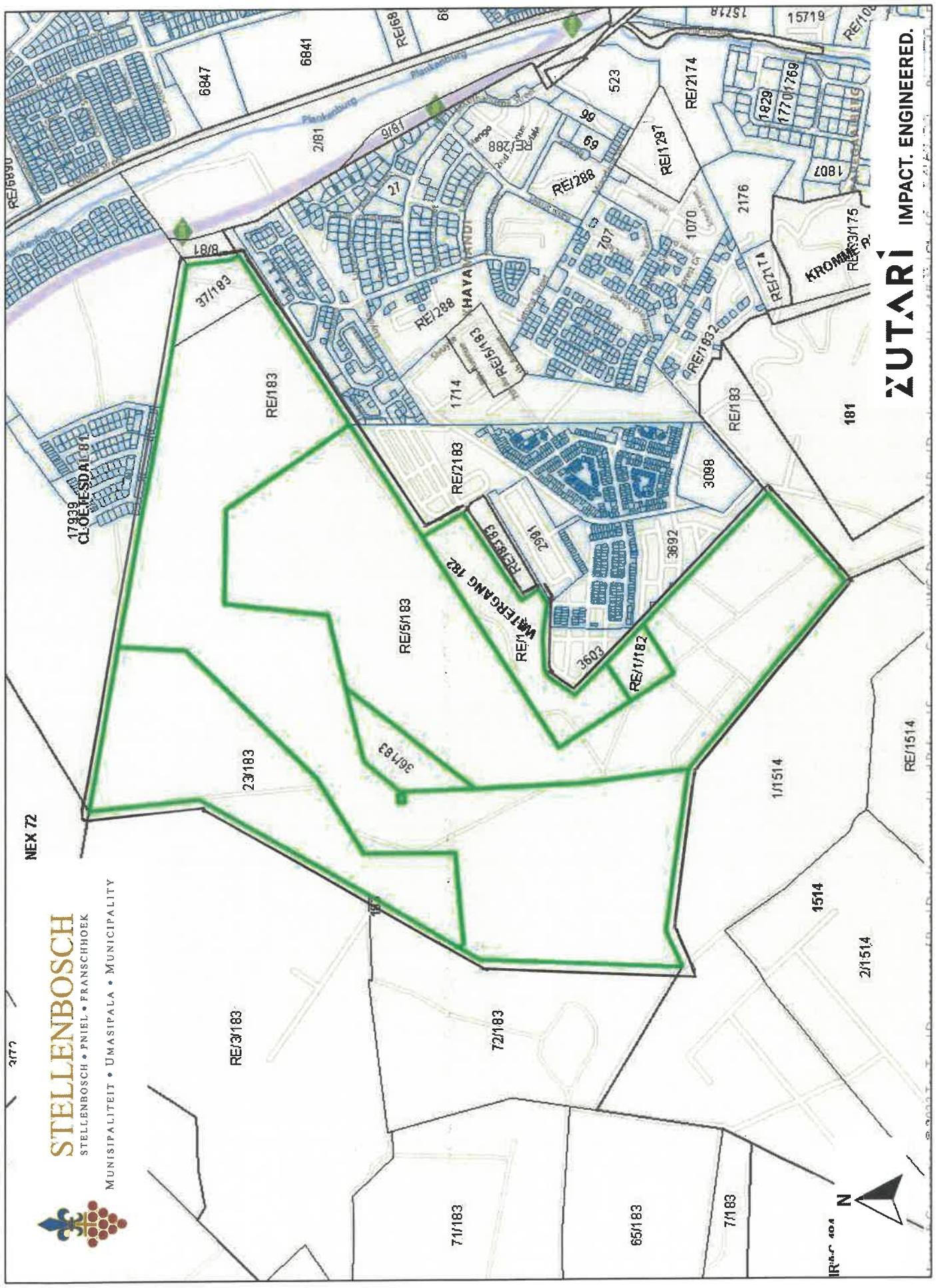
Signature:
Date: 14-04-2026

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ANNEXURE A

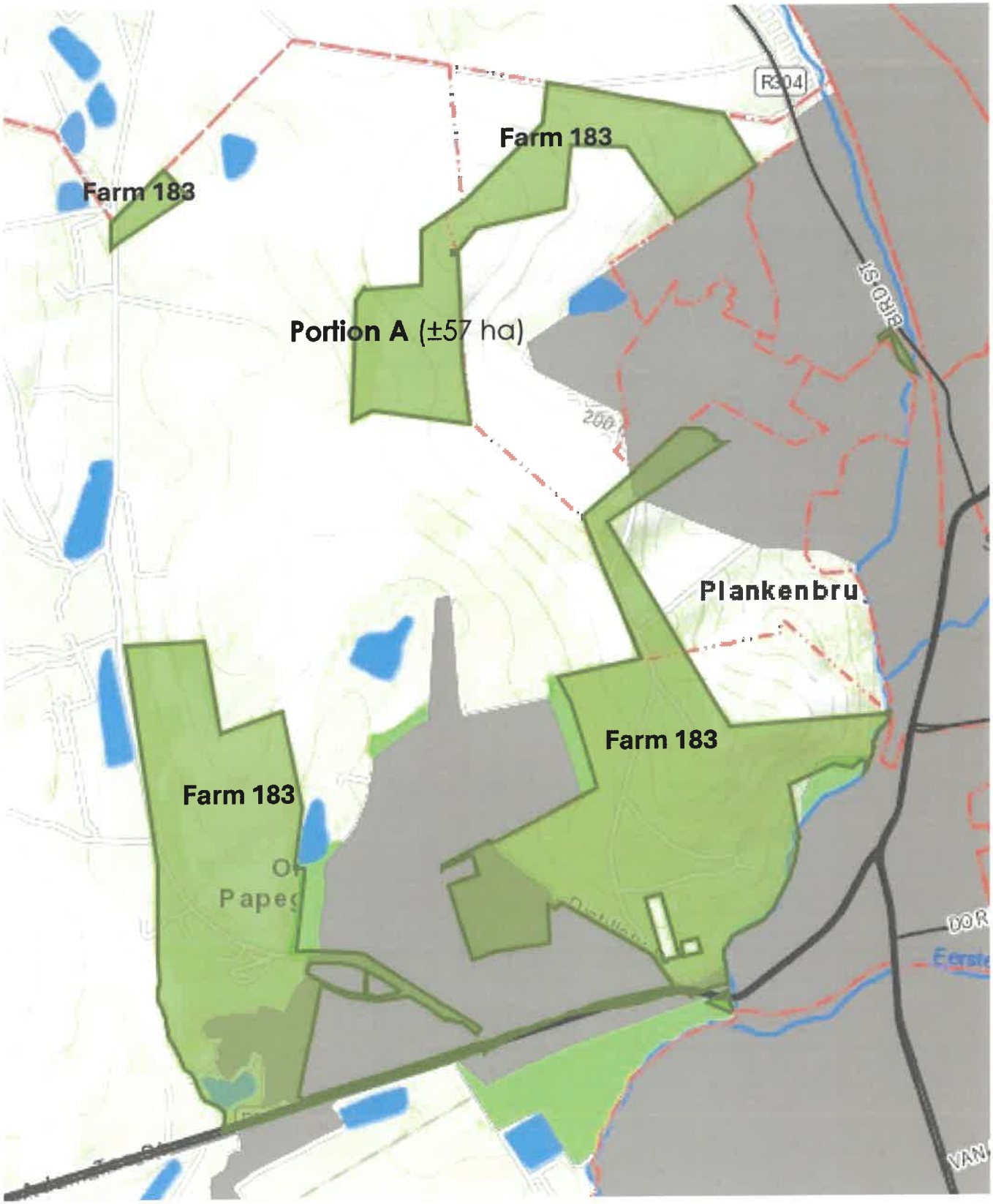
LOCALITY PLAN



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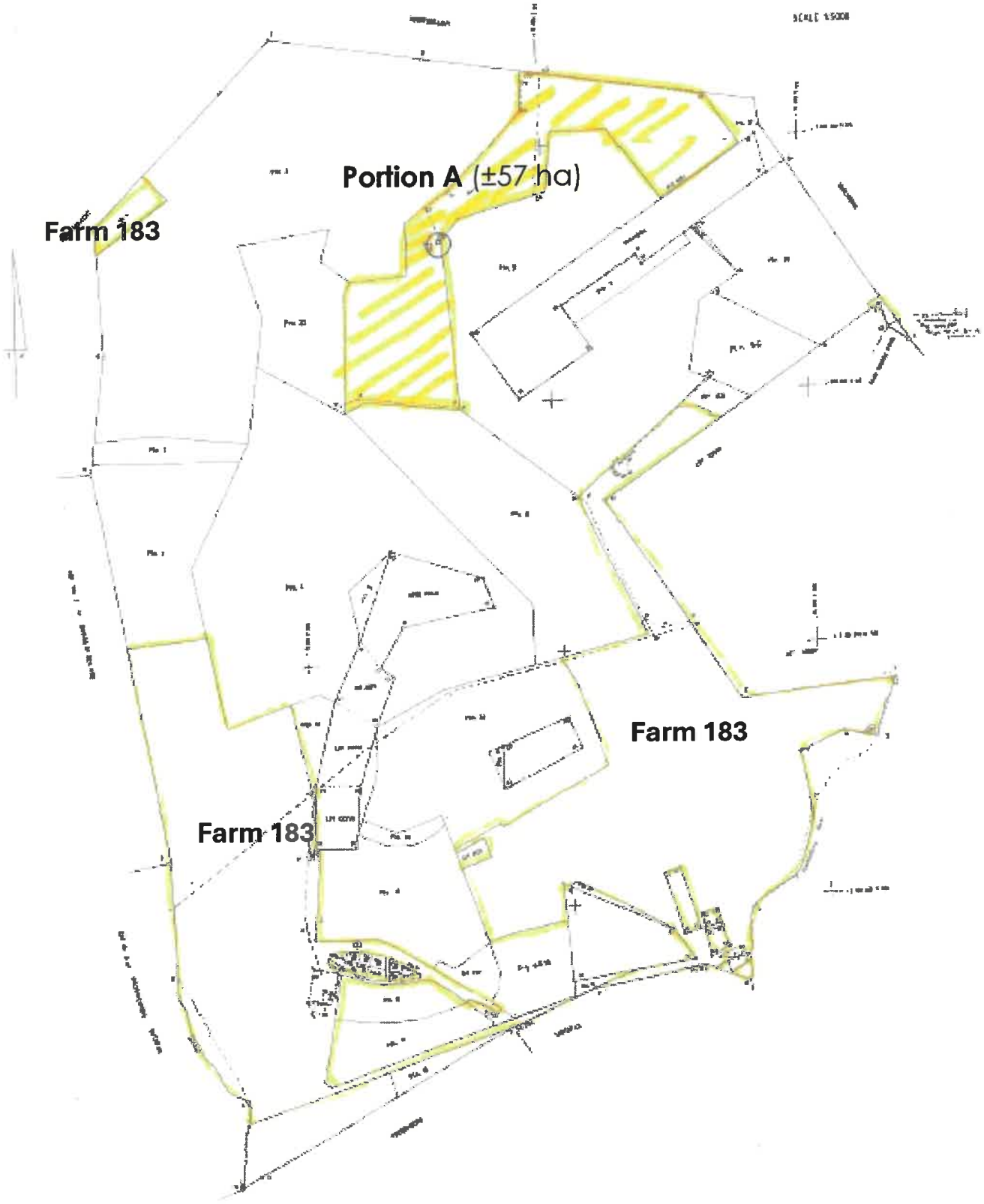
ANNEXURE B



Subdivision Plan

Subdivision of **Farm 183** into two Portions, **Portion A** (±57 ha) and **Remainder** (±203 ha)

Plan No: F183-04-2026
Date: 09-04-2026



Subdivision Plan

Subdivision of **Farm 183** into two Portions, **Portion A** (±57 ha) and **Remainder** (±203 ha

Plan No: F183-04-2026
Date: 09-04-2026

S.G. No. 851/1907

SHEET 1 of 2 sheets

Deduction Plan No 815/1907

Farm 183 Stellenbosch

The figure ABCDEFGHJK inner bank of Stream sNOPQR inner bank of Plankenburg River bUVWX Inner bank of Plankenburg River YZA1B1C1 exclusive of Weltevrede Dr De Waterpeg D1E1F1G1J1H1 J1K1L1; Middel Vallei and Lots XXXV, XXXVI and XXXVII M1N1O1P1Q1R1S1T1U1V1W1X1Y1; Klein Vallei Z1A2B2C2; Mon Repos D2E2F2G2; The Dutch Reformed Cemetery H2J2K2L2; the Wesleyan Cemetery M2N2O2P2; The Cemetery of the Church of England Q2R2S2T2 represents 1030 Morgen 662 Square Roods In the Division of Stellenbosch. Vide Dgm No 851/1907 annexed to Grant Stel.Fr. 5-15

Excluded : Lot XLVIII Railway Reserve in extent 366 Sq.Rds. Now Farm 194 (c.d.e.f.g.h.)

Road Lettered (I) closed. Notice dd 1996.01.19 File Stel.183 pg.722 (Sgd.) RA Fry. pp Surveyor-General. Date: 1996-02-13

BH-6DA, BH-6DCB
BH-6DA/YS3 + Z53
6939, 6958, 6962, 6960
6963, 6956 M3156

Drawn by D Crawshay
Checked by C Ellwood
November 2000

40

The following deductions have been made from this diagram

Survey Record	Diag. No.	Subdivision	Area Morgen	Sq. Feet	Deed	Init.
		Ptn. 1 (Lot VIII)	4	422 s.r. 79.2	31.12.1906-9659	
	Abolished	Ptn. 2 (Lot XLI)	3	270 s.r. 21	22.12.1923-11280	
E1330/1946	4455/35	Ptn. 4 (Subdivided Approx)	113.9520		10.2.1936-1158	
-"-	4454/35	Ptn. 3 (Graveyard)	161.2878		14.11.1935-9922	
E583/38	2532/36	Ptn. 5 (Lousenhof)	93.6211		9729/1938	
-"-	2533/36	Ptn. 6 (Subdivided Extensively)	56.5770		9730/1938	
E1571/40	5756/40	Ptn. 6	32.9357		4168/1941	
-"-	5755/40	Ptn. 7	6.3255		4260/1941	
E1518/43	5823/43	Ptn. 12		11855	3092/1944	
E1519/43	5821/43	Ptn. 11	11.8021		10845/1945	
E2276/47	8577/47	Ptn. 13	31.0096		4381/1948	
E2724/48	10572/48	Ptn. 14	3.1198		1336/1950	
E1812/53	7610/53	Ptn. 15	7.9412		10574/1957	
E578/54	5060/54	Ptn. 16		34215	Vervallen	
E423/56	1798/56	Ptn. 17	12.0551		10573/1957	
E2167/59	9557/59	Ptn. 18		79356	14838/1962	WJW
-"-	9556/59	Ptn. 19		13403	14838/1962	
E59/61	366/61	Ptn. 20	2.5146		3389/1961	WJW
E620/62	2743/62	Ptn. 21		52501	10188/62	
E1212/62	4127/62	Ptn. 22	24.2582		17969/1962	SK
			Hectares	sq.m.		
E189/65	699/65	Ptn. 24		2651	9571/1970	BB
-"-	697/65	Ptn. 25		2030	352811/1971	BB
-"-	698/65	Ptn. 26		2386	9033/1973	
-"-	699/65	Ptn. 27		33000	27883/1965	WB
-"-	700/65	Ptn. 28		22240	157/1966	BJ
-"-	701/65	Ptn. 29		92	3750/1984	BJ
-"-	702/65	Ptn. 30		18630	157/1966	
-"-	703/65	Ptn. 31		37922	27883/1965	WB
-"-	704/65	Ptn. 32		2260		974
-"-	705/65	Ptn. 33		2153	31034/1970	BB
E1880/68	6333/68	Ptn. 37	3.1965		35139/1974	JWL
E2803/70	10600/70	Ptn. 38	40.0034		4385/1974	DL
-"-	10601/70	Ptn. 39	3.5960		18777/1973	
E815/74	1891/74	Ptn. 43 (Now Erf 6390 Stel)	2.9232		3115/1976	CHB
E1971/74	7155/74	Ptn. 44 (Now Erf 6390 Stel)		4360	24126/1976	WDN
E2/76	9/76	Ptn. 45 (Now Erf 6376 Stel)	1.0000		9648/1977	WDN
E735/77	2564/77	Ptn. 46		WITHDRAWN		
E1759/77	7885/77	Ptn. 47		824	40014/1980	VEK
E438/78	1734/78	Ptn. 49 (Now Erf 6373 Stel)				
E23/80	70/80	Ptn. 50	26.0617		3406/1981	VEK
E1288/80	3991/82	Ptn. 51		8507	42213/1981	MJ
E186/86	506/86	Erf 6708 Stellenbosch		62	32175/1987	VEK
E845/86	2571/86	Ptn. 55		1400	32175/1987	VEK
E222/90	L34/90	Ptn. 58				
E158/93	406/93	Ptn. 60		300	73692/1994	MF
E1357/96	3696/96	Erf 1491 Kaya Mandi		339	9012/5/1996	MF
E2883/2000	6666/2000	Erf 1831 Kaya Mandi	2.2276		10622/2/2002	MF
334/2021	843/2021	Erf 12331 Stellenbosch		sq.m.	84795 | 2015	JM

The following deductions have been made from this diagram

Survey Record	Diag. No.	Subdivision	Area Hectares	Sq. M.	Deed	Init.

SERVITUDES / LEASEHOLD AREAS

Survey Record	Diag. No.	Description	Deed	Init.
E2215/55	9176/55	The line w1g1z1 and m1n1o1 p1q1 represent the centre lines of an Electric Power Line Serv.	445/1959	WJW
E2215/55	9179/55	The lines r1 and s1 represent the centre lines of an Electric Power Line Servitude.	445/1959	WJW
E1042/57	6379/57	The line w1x1 represents the centre line of an Electric Power Line Servitude.	445/1959	WJW
E181/58	7656/58	The figure a1b1c1d1e1 represents an Archaeological reserve. *		
E1228/90	4155/90	The figure z2K2L2M2N2A2O2P2 represents a Serv Pipeline Area of 2617 sm The figure A2B2C2D2E2F2G2H2 represents a Serv Reservoir Area of 2013 sm.		
E1314/99	3033/99	The line e2b2 represents the centre line of an 18m E.P.L.S.		
E1314/99	3035/99	The line c1J2 represents the centre line of an 18m E.P.L.S.		
E1314/99	3034/99	The line s4k4o4d4 represents the centre line of a 6m E.P.L.S.	K865/2000	
E158/93	405/93	The lines A2B3 and B3C3 represents the western , the lines C3D3 + D3E3 repres. the north western, the lines E3F3 and F3G3 repres. the western and the line G3 and H3 represents the northern boundary of a Servitude 3,00 m wide.	73688/1994	
918/2019	972/2019	The figure a3b3c3d3e3f3g3h3 and m4n4p4q4 represents 1 SERVITUDE area of 9830 sqm		

* The figure a1b1c1d1e1 represents a Historical Monument Area Dgm 7358/1958 GN No 1517 dd 21.8.1962 Gov. Gaz. No 336 dd 21.9.1962 & V.N. 153 page 191 (Sgd.) G.Kots. for Surveyor-General 14/11/1962

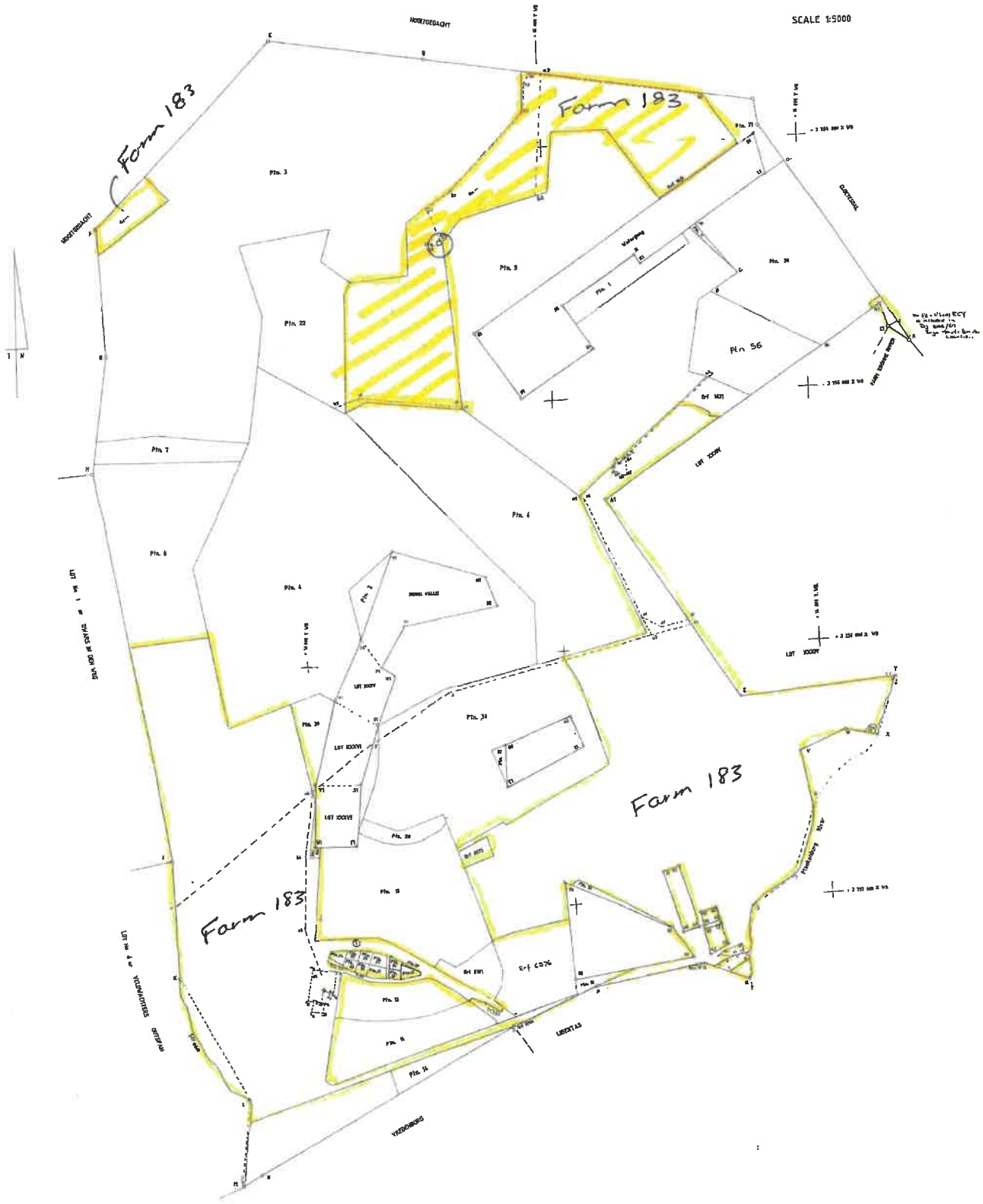
Deduction Plan 851/1907 Sheet 2

S.G. No. 851/1907

SHEET 1 of 2 sheets

Farm 183 STELLENBOSCH

SCALE 1:5000

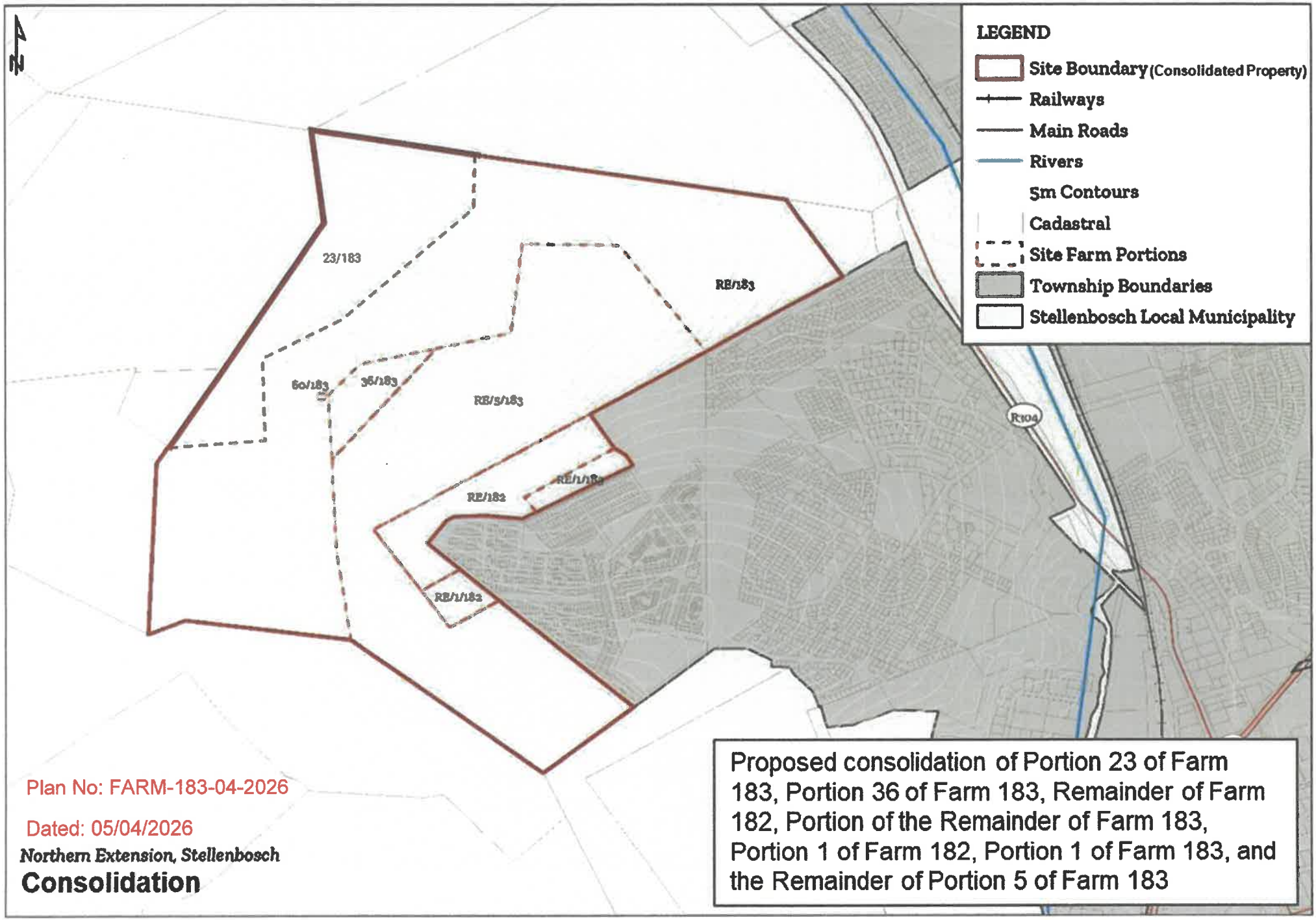


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ANNEXURE C

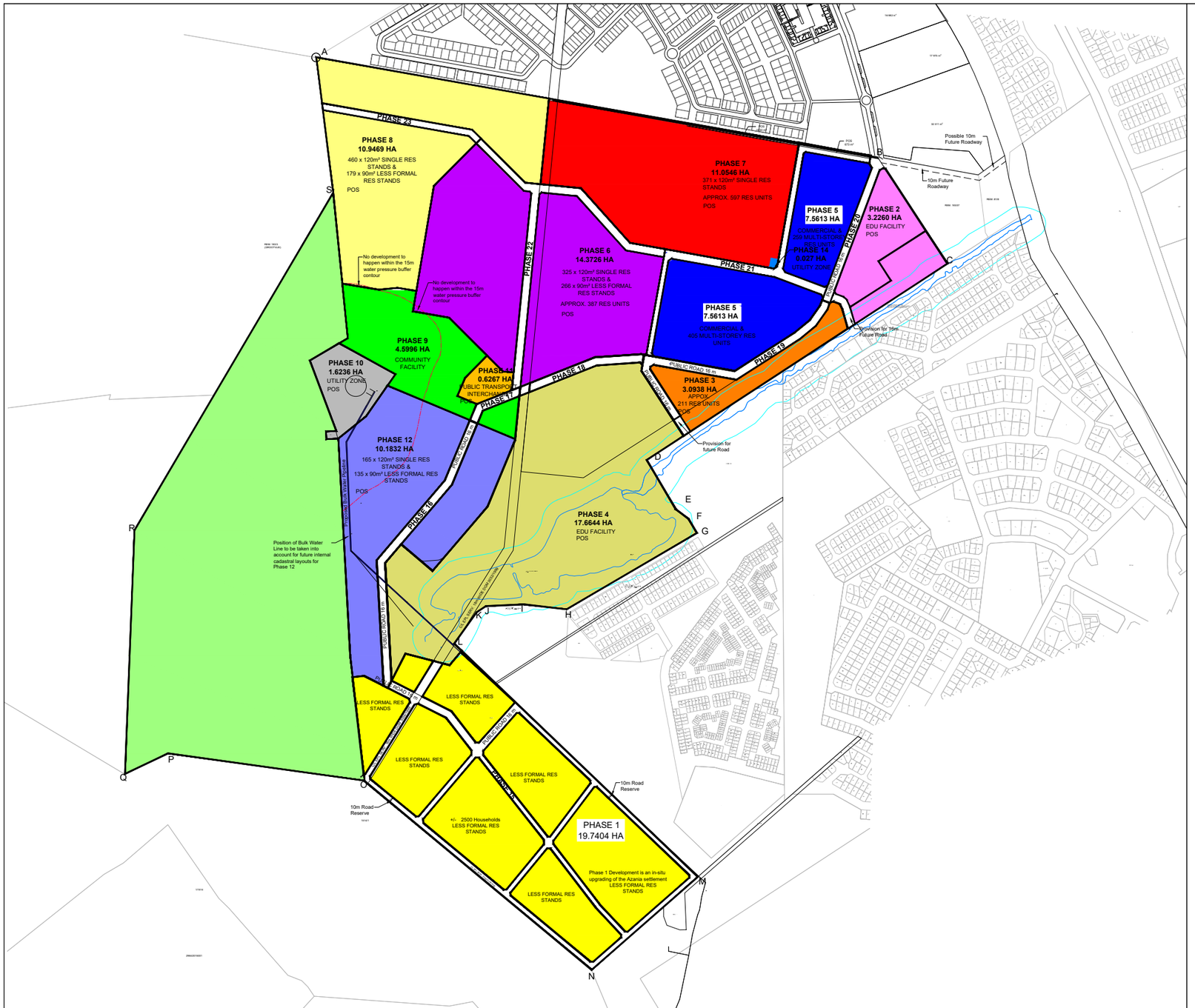
CONSOLIDATION PLAN



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ANNEXURE D



NUMBER		LEGEND
1		100 Year Floodline
2		Water Coarse Line
3		Servitude
4		15m Water Pressure Buffer Contour
5		Water Pipeline
6		Provision for future Road
7		16m Public Street

PHASE	NOTATION	ERF TYPE	ZONING (STB. SCHEME)
1		Less Formal Res. Stands	LESS FORMAL RES. ZONE
2		Education Facility	EDUCATION ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
3		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
4		Education Facility	EDUCATION ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
5		Commercial & Apartments	MIXED USE ZONE
6		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
7		Single Residential	CONVENTIONAL RES. ZONE
		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
		Utility (elec & water)	UTILITY SERVICES ZONE
8		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
9		Community Facilities	COMMUNITY ZONE
10		Utility (elec & water)	UTILITY SERVICES ZONE
11		Public Transport Interchange	TRANSPORT FACILITY ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
12		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
13		Agriculture and Hydroponics	AGRI. & RURAL ZONE
14		Utility (elec & water)	UTILITY SERVICES ZONE
15		Public Road	PUBLIC ROADS & PARKING ZONE
16		Public Road	PUBLIC ROADS & PARKING ZONE
17		Public Road	PUBLIC ROADS & PARKING ZONE
18		Public Road	PUBLIC ROADS & PARKING ZONE
19		Public Road	PUBLIC ROADS & PARKING ZONE
20		Public Road	PUBLIC ROADS & PARKING ZONE
21		Public Road	PUBLIC ROADS & PARKING ZONE
22		Public Road	PUBLIC ROADS & PARKING ZONE
23		Public Road	PUBLIC ROADS & PARKING ZONE

THIS FIGURE REPRESENTS PORTION 23 OF FARM 183, PORTION 36 OF FARM 183, PORTION 1 OF FARM 183, REMAINDER OF PORTION 5 OF FARM 183, PORTION OF THE REMAINDER OF FARM 183, REMAINDER OF FARM 182 AND PORTION 1 OF FARM 182, STELLENBOSCH, IN EXTENT 140.13 HA, WHICH IS TO BE REZONED TO A SUBDIVISIONAL AREA AND DEVELOPED AS INDICATED

N

ZUTARI PROJECT NUMBER: 1001438

CLIENT

ZUTARI
IMPACT. ENGINEERED.

DISCLAIMER

IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER

REV	DATE	REVISION DETAILS	APPROVED
0	15/01/2025	First Draft	R Schröder
1	12/11/2025	Notes and Futue Road Reserve Added	R Schröder
2	20/11/2025	Road Widths Revised	R Schröder
3	13/04/2026	Changes as requested by the Municipality	R Schröder

SCALE	SIZE
AS SHOWN	A2

DRAWN: SH
DESIGNED: AFB
REVIEWED: RS

PRELIMINARY
NOT FOR CONSTRUCTION

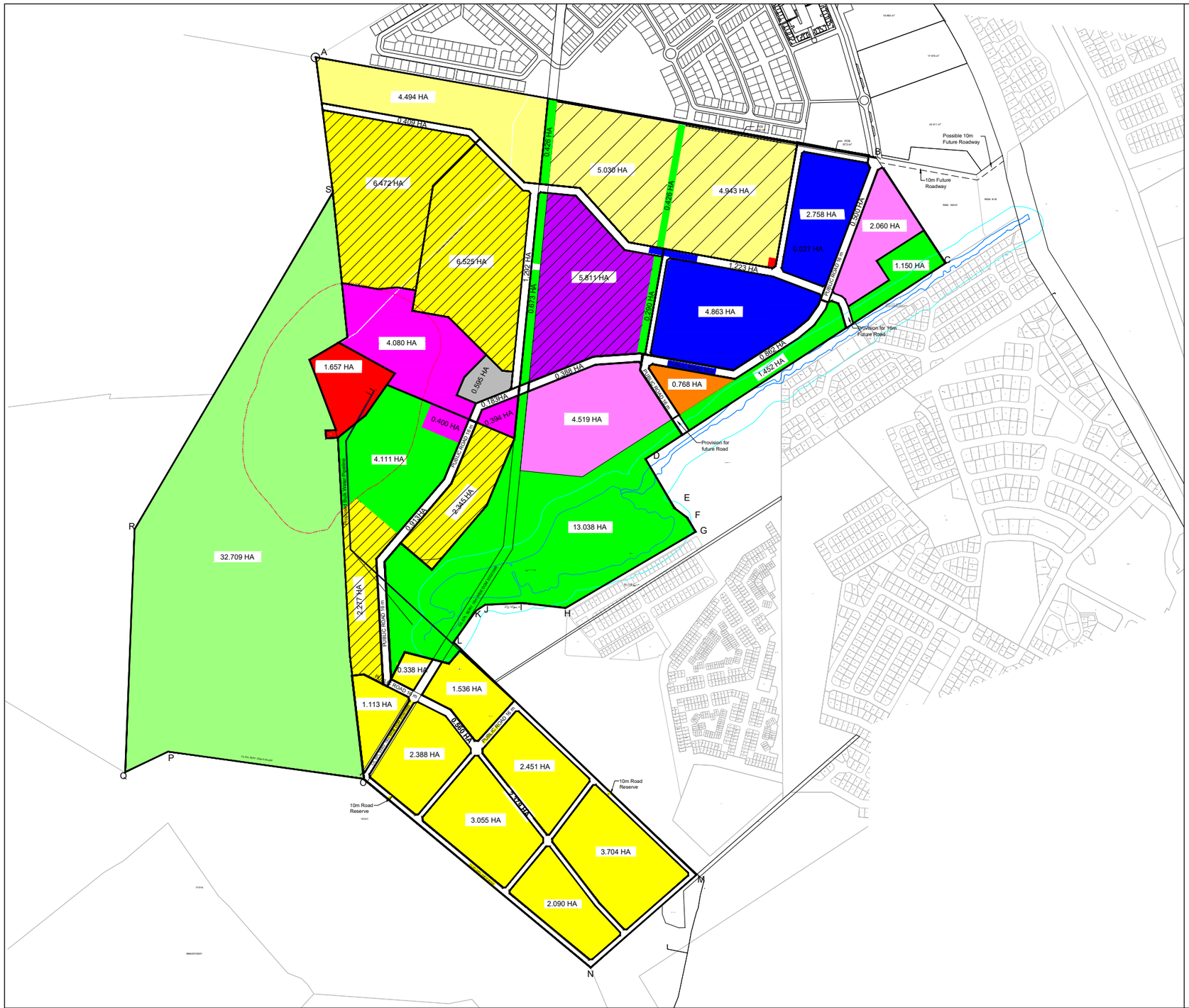
APPROVED
DATE: 15/01/2025
Rudolf Schröder

PROJECT: Portions of Farm 182 and Farm 183, Stellenbosch

TITLE: Northern Extention Phasing Plan

DRAWING No.: 1001438-ZUT-LL-DRG-TP-NE 000 - 00

REV: 1



NUMBER		LEGEND
1		100 Year Floodline
2		Water Coarse Line
3		Servitude
4		15m Water Pressure Buffer Contour
5		Water Pipeline
6		Provision for future Road
7		16m Public Street

	ERF TYPE	ZONING (STB. SCHEME)
	16m Public Street	PUBLIC ROADS & PARKING ZONE
	10m Public Street	PUBLIC ROADS & PARKING ZONE
	Less Formal Res. Stands	LESS FORMAL RES. ZONE
	Education Facility	EDUCATION ZONE
	Apartments	MULTI UNIT RES. ZONE
	Commercial & Apartments	MIXED USE ZONE
	Single Residential	CONVENTIONAL RES. ZONE
	Utility (elec & water)	UTILITY SERVICES ZONE
	Community Facilities	COMMUNITY ZONE
	Single Residential & Less Formal Res. Stands	LESS FORMAL RES. ZONE & CONVENTIONAL RES. ZONE
	Single Residential & Apartments	CONVENTIONAL RES. ZONE & MULTI UNIT RES. ZONE
	Less Formal Res. Stands & Apartments	LESS FORMAL RES. ZONE & MULTI UNIT RES. ZONE
	Public Transport Interchange	TRANSPORT FACILITY ZONE
	Agriculture and Hydroponics	AGRI. & RURAL ZONE
	Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE

THIS FIGURE REPRESENTS PORTION 23 OF FARM 183, PORTION 36 OF FARM 183, PORTION 1 OF FARM 183, REMAINDER OF PORTION 5 OF FARM 183, PORTION OF THE REMAINDER OF FARM 183, REMAINDER OF FARM 182 AND PORTION 1 OF FARM 182, STELLENBOSCH, IN EXTENT 140.13 HA, WHICH IS TO BE REZONED TO A SUBDIVISIONAL AREA AND DEVELOPED AS INDICATED

N

ZUTARI PROJECT NUMBER: 1001438

CLIENT

ZUTARI
IMPACT. ENGINEERED.

DISCLAIMER

IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER

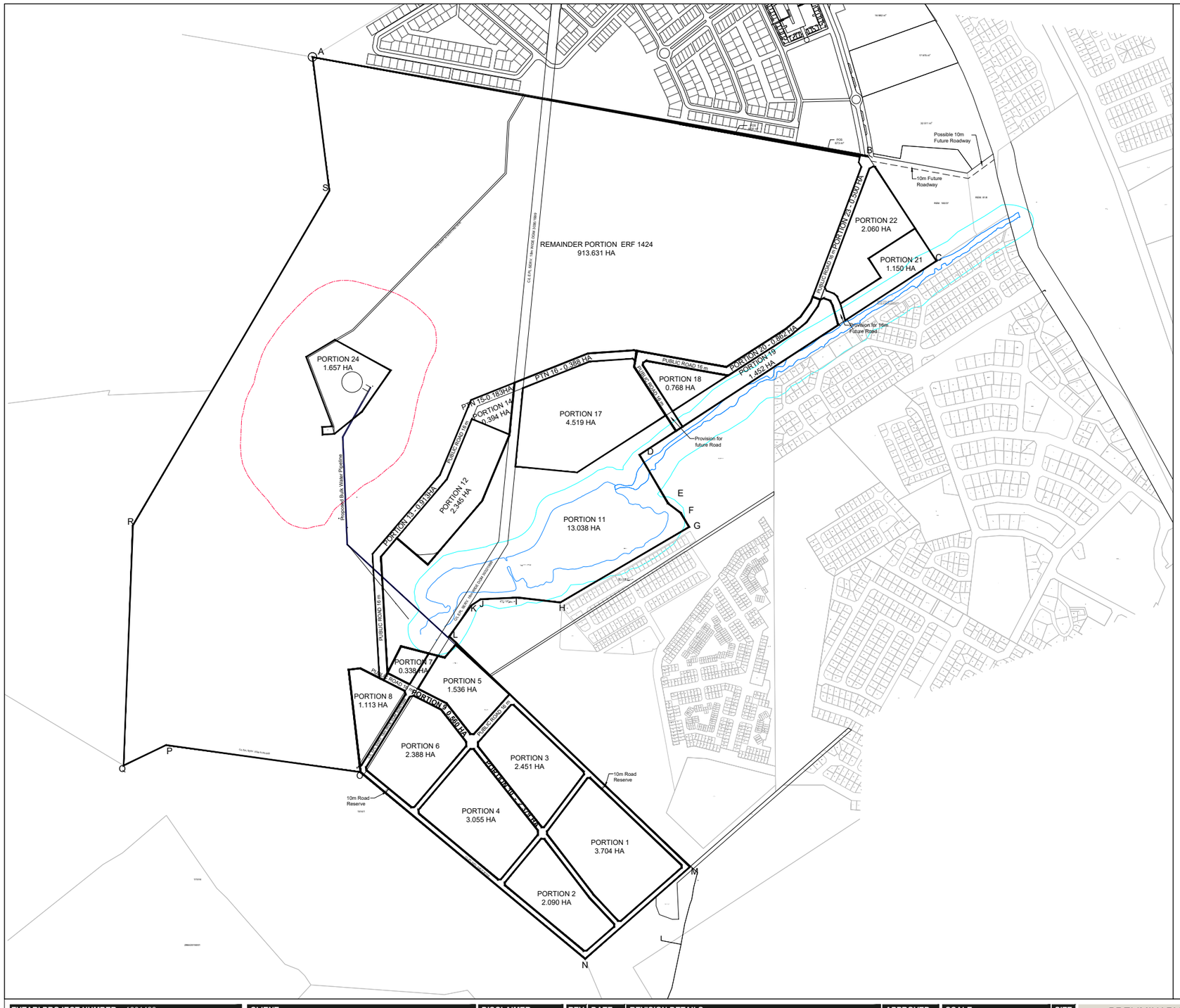
REV	DATE	REVISION DETAILS	APPROVED
0	15/01/2025	First Draft	R Schröder
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SCALE	AS SHOWN
SIZE	A2
DRAWN	SH
DESIGNED	AFB
REVIEWED	RS

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE 15/01/2025
Rudolf Schröder

PROJECT	Portions of Farm 182 and Farm 183, Stellenbosch
TITLE	Northern Extention Zoning Plan
DRAWING No.	1001438-ZUT-LL-DRG-TP-NE 000 - 00
REV	3



NUMBER		LEGEND
1		100 Year Floodline
2		Water Coarse Line
3		Servitude
4		15m Water Pressure Buffer Contour
5		Water Pipeline
6		Provision for future Road
7		16m Public Street

ZUTARI PROJECT NUMBER: 1001438

CLIENT

ZUTARI
IMPACT. ENGINEERED.

DISCLAIMER

IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER

REV	DATE	REVISION DETAILS	APPROVED
0	15/01/2025	First Draft	R Schröder
1	12/11/2025	Notes and Futue Road Reserve Added	R Schröder
2	20/11/2025	Road Widths Revised	R Schröder
3	10/04/2026	Changes as requested by the Municipality	R Schröder
4	13/04/2026	Further changes as requested by the Municipality	R Schröder

SCALE: AS SHOWN | SIZE: A2

DRAWN: SH

DESIGNED: AFB

REVIEWED: RS

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED

DATE: 15/01/2025

Rudolf Schröder

PROJECT: Portions of Farm 182 and Farm 183, Stellenbosch

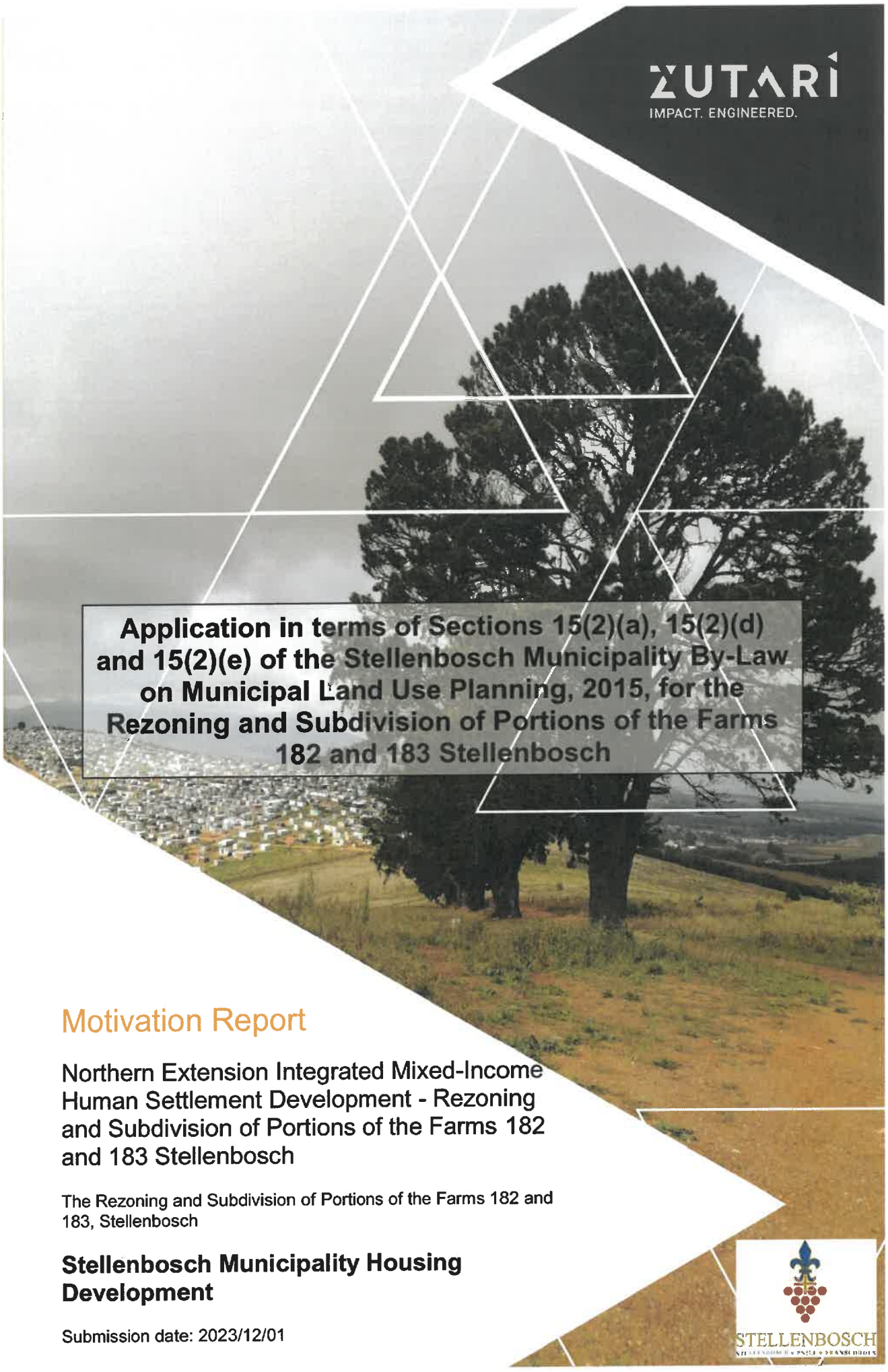
TITLE: Northern Extention Subdivision Plan

DRAWING No.: 1001438-ZUT-LL-DRG-TP-NE 000 - 00

REV: 3

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ANNEXURE E


ZUTARI
IMPACT. ENGINEERED.
Application in terms of Sections 15(2)(a), 15(2)(d) and 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the Rezoning and Subdivision of Portions of the Farms 182 and 183 Stellenbosch
Motivation Report
Northern Extension Integrated Mixed-Income Human Settlement Development - Rezoning and Subdivision of Portions of the Farms 182 and 183 Stellenbosch
The Rezoning and Subdivision of Portions of the Farms 182 and 183, Stellenbosch
Stellenbosch Municipality Housing Development
Submission date: 2023/12/01
STELLENBOSCH

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E	Copy of the Surveyor-General's Diagrams
F	Locality Plan
G	Subdivisional Layout Plan
H	Zoning Certificates
I	SACPLAN Registration Certificate

J	Contour Cadastral Basemap
K	Urban Design Framework
L	Phasing Plan
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NORTHERN EXTENSION INTEGRATED MIXED-INCOME HUMAN SETTLEMENT DEVELOPMENT

1 INTRODUCTION & BACKGROUND

1.1 Introduction

Stellenbosch has grown significantly as an educational, commercial and tourism node. This growth and influx of people resulted in the need for an integrated mixed-income human settlement project. Stellenbosch Municipality identified the Northern Extension site as an ideal site for an integrated mixed-income human settlement development. Subsequently, Zutari was appointed to evaluate the development potential of the site from an engineering, planning and environmental perspective.

The main objective is to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, to guide the development framework and to obtain town planning (Land Use Planning Rights) and development rights. Zutari is appointed as a multidisciplinary team of professional consultants to conduct the required investigations and studies to obtain planning and development rights in terms of applicable legislative Policies and by-laws of the Stellenbosch Municipality.

Application is made for the consolidation, rezoning and subdivision of the following portions of the Farms 182 and 183 Stellenbosch in order to create an integrated mixed-income human settlement development:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

1.2 Background

The Municipality is aiming to facilitate the development of ±4000 to ± 6000 residential opportunities, as well as providing the required social amenities and public facilities required. The feasibility studies that have been undertaken, included identifying developable land within the study area (different farm land identified).

The purpose of the project is to conduct various studies to determine if the Northern Extension site can accommodate an integrated mixed-income human settlement development. Through this project, Stellenbosch Municipality aims to facilitate the development of ± 5,000 residential opportunities including the required social and public facilities within the Site. The project will guide the development framework for the Northern Extension site through a Broad Conceptual Urban Design Framework and also obtain planning and development rights in terms of the applicable legislative policies and by-laws of the Stellenbosch Municipality.

The main objective was to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, for a mixed-income development, creating housing opportunities for a wide range of income categories. The project aims to:

- Propose and analyse different development options;

- Identify different residential typologies and densities;
- Identify relevant human settlements development initiatives to draw lessons and examples of good practice from;
- Address challenges of land invasion on a portion of the site; and
- Investigate the current traffic situation and make preliminary proposals in respect of the additional demand that will be created.

Extensive investigations and studies have been undertaken during the planning and design of the proposed developed which culminated in the final layout of the proposed development which forms the basis of this rezoning and subdivision application.

It is therefore the intention to submit an application in terms of Section 15(2) for the consolidation, rezoning and subdivision of the following Portions of the Farms 182 and 183 Stellenbosch:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

The seven farm portions that is the subject of this application will be referred to as "the site of application".

1.3 Application

An application is hereby submitted for the following:

i. In terms of Section **15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

ii. In terms of Section **15(2)(a)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **rezoning** of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan (attached as **Annexure F**).

iii. In terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **subdivision** of the consolidated property in accordance with the attached Subdivision plan (attached as **Annexure F**), in order to give effect to the proposed land uses.

1.4 Purpose of Memorandum

(i) To gather all relevant information regarding the proposed rezoning and subdivision proposal into one document;

(ii) To analyse all relevant information regarding the site and informants to the design of the proposed development, and

(iii) To motivate the need and desirability of the proposed rezoning and subdivision of the **Northern Extension Integrated Mixed-Income Human Settlement Development**, in terms of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, in order to enable the relevant governing bodies to make an informed decision.

1.5 Pre-Application Consultation

In terms of **Section 37** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015:

(1) The Municipality may require an owner who intends to submit an application or his or her agent to meet with the authorised employee and, where applicable, with employees of other relevant organs of state for a pre-application consultation before he or she submits an application to the Municipality in order to determine the information and documents that must be submitted with the application.

(2) The Municipality may issue guidelines regarding—

(a) applications that require a pre-application consultation;

(b) the nature of the information and documents that must be submitted with an application;

(c) the attendance of employees from the Municipality or other organs of state at a pre-application consultation; and

(d) the procedures at a pre-application consultation.

(3) The Municipality must keep minutes of the proceedings of a pre-application consultation.

In terms of this application and the development proposal contained herein, several consultation sessions were held with the project stakeholders and relevant municipal officials and a formal pre-application was submitted to the Municipality on 30 June 2023, where-after a pre-planning consultation was held with the Stellenbosch Municipality's Planning Department.

Some technical adjustments to the layout plan were required whereafter it was confirmed that the applicant can proceed with the submission of a formal rezoning and subdivision application.

1.6 Information Required in terms of Section 38 of the By-Law

In terms of Section 38 of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, an application must be accompanied by the following information and documents:

Table 1: Information required in terms of Section 38 of the By-Law

Information Required	Location	Included in the Application	
		Yes	No
Application form, completed and signed by applicant	Annexure A	X	
Power of Attorney & Proof that the person is authorised to act on behalf of the Client	Annexure B	X	
Proof of Registered Ownership (Title Deed)	Annexure C	X	
Bondholder's Consent	N/A		X
Written motivation for the application based on the criteria referred to in Section 65	See Report	X	
Copy of the Surveyor-General's diagram	Annexure D	X	
Locality Plan	Annexure E	X	
Subdivisional Layout Plan	Annexure F	X	
Proof of Payment of Application Fees	No application fees are due as it is the Municipality's own application.		X
Conveyancer's Certificate indicating that the application is not restricted by any condition contained in the title deed.	Application to be referred to the Municipality's legal department for comments	X	
Minutes of pre-application consultation	Numerous consultations and discussions were held with the Municipality's technical departments in the planning of the proposed development.		X

1.7 Applicant Detail

Stellenbosch Municipality is the lawful owner of the property as stated on the registered title deed of the farm portions that form the site of application. Attached please find a copies of the Title Deeds, confirming the ownership of each land parcel **(Annexure C).**

The Stellenbosch Municipality appointed Zutari (Pty) Ltd to submit an application for rezoning and subdivision on their behalf. Zutari (Pty) Ltd, in their capacity as consultant for Stellenbosch Municipality, was authorised by the Municipality to sign any and all relevant documentation which

may be necessary for the proposed planning application on behalf of the Municipality. The procuration signed by the Stellenbosch Municipality, appointed Zutari (Pty) Ltd. as the lawful agent to prepare and compile the documentation required for the change in land use rights and subdivision of the **Northern Extension Integrated Mixed-Income Human Settlement Development**. Attached please find a copy of Zutari's appointment letter and Service Level Agreement **(Annexure B).**

Table 2: Applicant Details

Applicant, full name and title	Zutari (Pty) Ltd. Reg No. 1977/003711/07
Contact Person of Authorised Professional Planner	Rudolf Schröder
SACPLAN Registration number:	A/151/2009 (See registration certificate attached)
Street Address	Suite 201 2nd Floor Bloemhof Building 65 York Street George 6529
Telephone Number	+27 44 805 5400 / +27 83 390 6963
Email Address	rudolf.schroder@zutari.com

See SACPLAN registration certificate attached as **Annexure I**.

2 PROPERTY PARTICULARS

2.1 Property Description, Registered Owner & Title Deed

There are seven land parcels that form the site of application. The following portions of the Farms 182 and 183 Stellenbosch form the site of application:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

The registered owner of the property as reflected on the title deeds is the Stellenbosch Municipality. See **Annexure C** for a copies of the Title Deeds. Attached please also find a copy of Zutari's appointment letter and Service Level Agreement authorising Zutari to submit an application on the Municipality's behalf **(Annexure B).**

The portion of land to be subdivided is made up of various farm portions as detailed below:

	Property description	Extent	Registered owner	Title deed number
1	Portion 23 of Farm 183	20,4239ha	Stellenbosch Municipality	T17996/1962
2	Portion 36 of Farm 183	2,8272ha	Stellenbosch Municipality	T35138/1974
3	Remainder of Farm 182	7,2986ha	Stellenbosch Municipality	T50743/2019

4	Portion of the Remainder of Farm 183	267,6298ha (only a 60.20 ha portion of this land parcel is planned as part of the proposed development)	Stellenbosch Municipality	STF8-18/1908
5	Portion 1 of Farm 182	1,4175ha	Stellenbosch Municipality	T50743/2019
6	Portion 1 of Farm 183	1,3673ha	Stellenbosch Municipality	T50743/2019
7	Remainder of Portion 5 of Farm 183	50,8432ha	Stellenbosch Municipality	T50743/2019

Table 3 - Property description

The combined total size of all the land parcels is 351,8075ha, but the area which is planned for the proposed development measures approximately 142 hectares in extent.

2.2 Locality

Stellenbosch is located in the Western Cape South Africa:

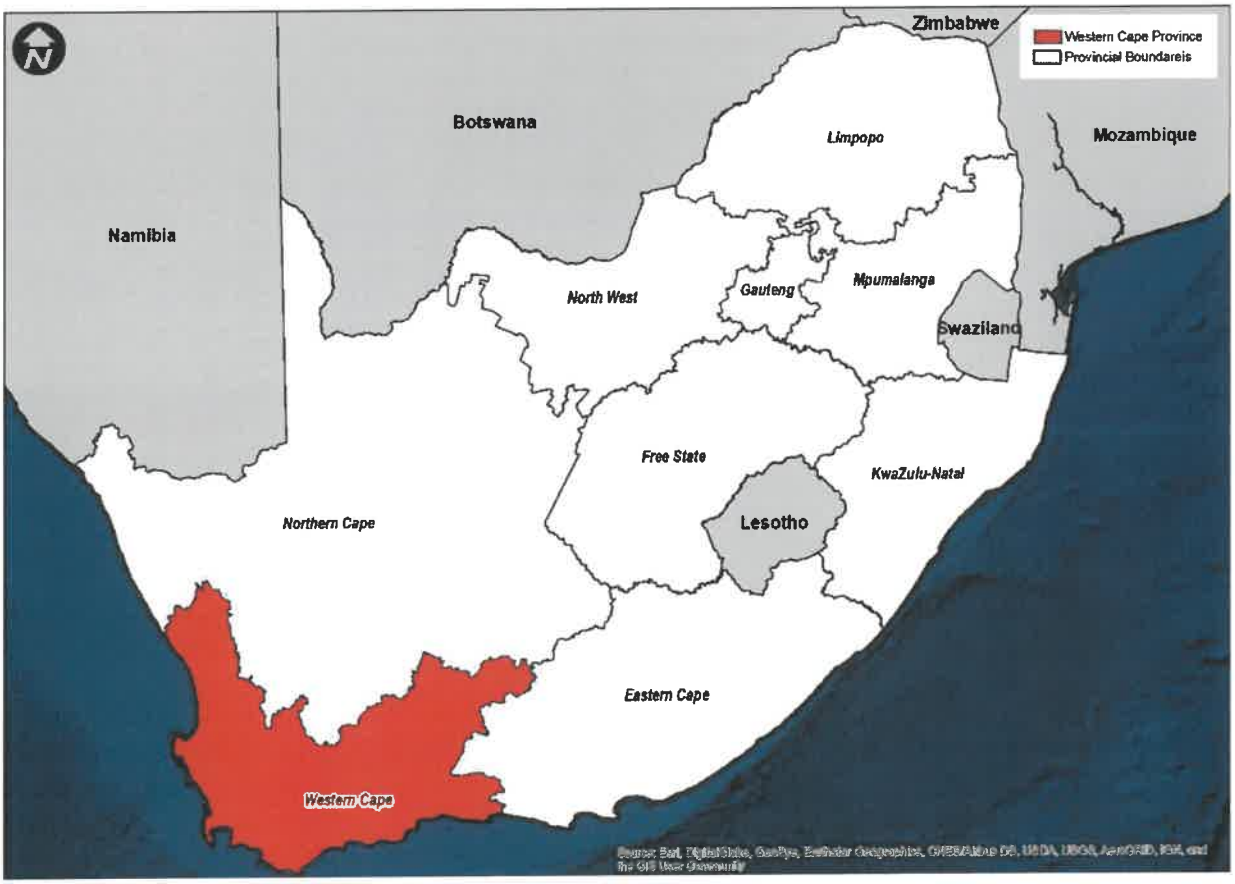


Figure 1: Western cape province

The map below (extracted from the 2014 Western Cape Provincial Spatial Development Framework (PSDF)) provides an indication of the spatial location of Stellenbosch within the Western Cape Province and depicts its connectivity to adjacent major centres.

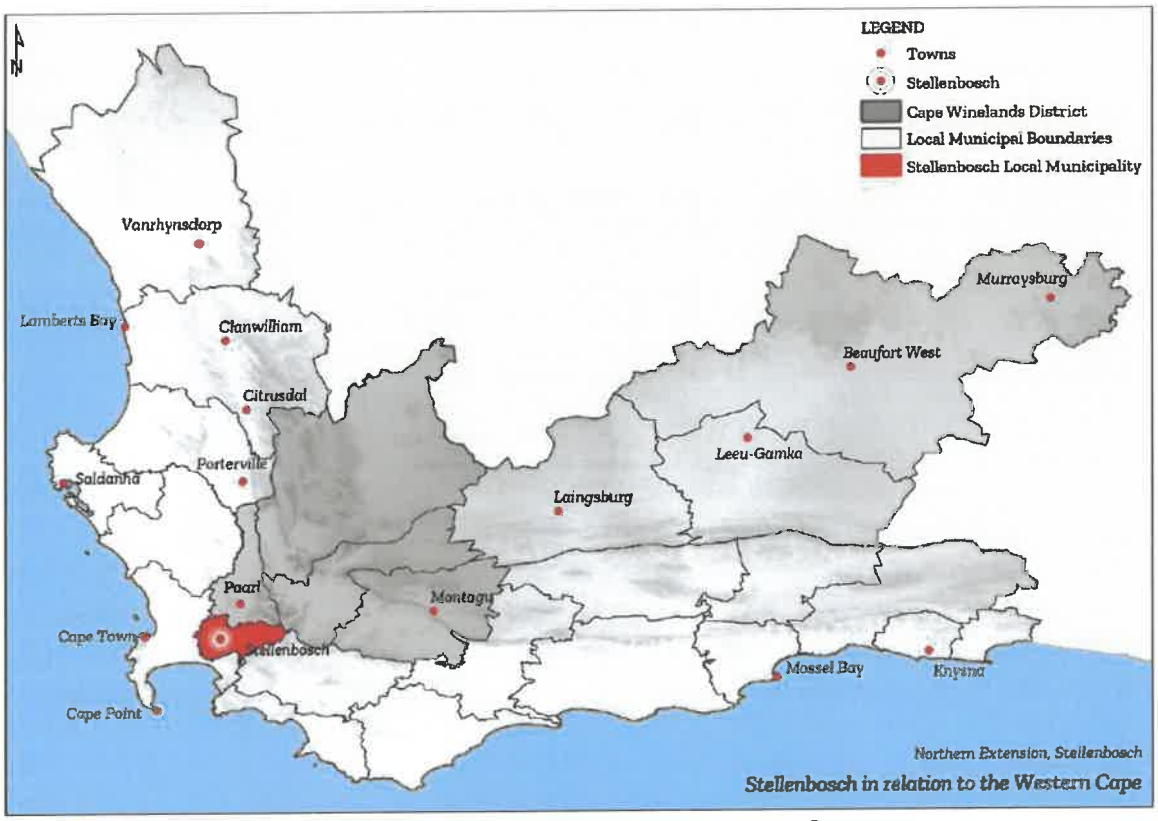


Figure 2: Locality of Stellenbosch Municipality in relation to the Western Cape

At a macro-level, the Northern Extension site is situated within the Stellenbosch Local Municipality (LM) which is located in the southwestern corner of the Cape Winelands District as illustrated in Figure 2. Stellenbosch Local Municipality is surrounded by four local municipalities: Drakenstein Municipality, located to the north, Breede Valley to the east, Theewaterskloof Municipality to the south and City of Cape Town to the west.

The main settlements within the Stellenbosch Local Municipality are the towns of Stellenbosch, Franschoek and Klapmuts. Smaller settlements include Jamestown, Pniel, Johannesdal, Lanquedock, Lynedoch and Raithby Stellenbosch Municipality has a prominent cultural landscape and most settlements within the municipality draw from the agricultural potential and scenic beauty of the natural landscape.

The Northern Extension site is located to the west the R304, north of Kayamandi as illustrated in the Figure below. The site measures approximately 142 hectares in extent.

Also see the Locality Plan attached as **Annexure F**.

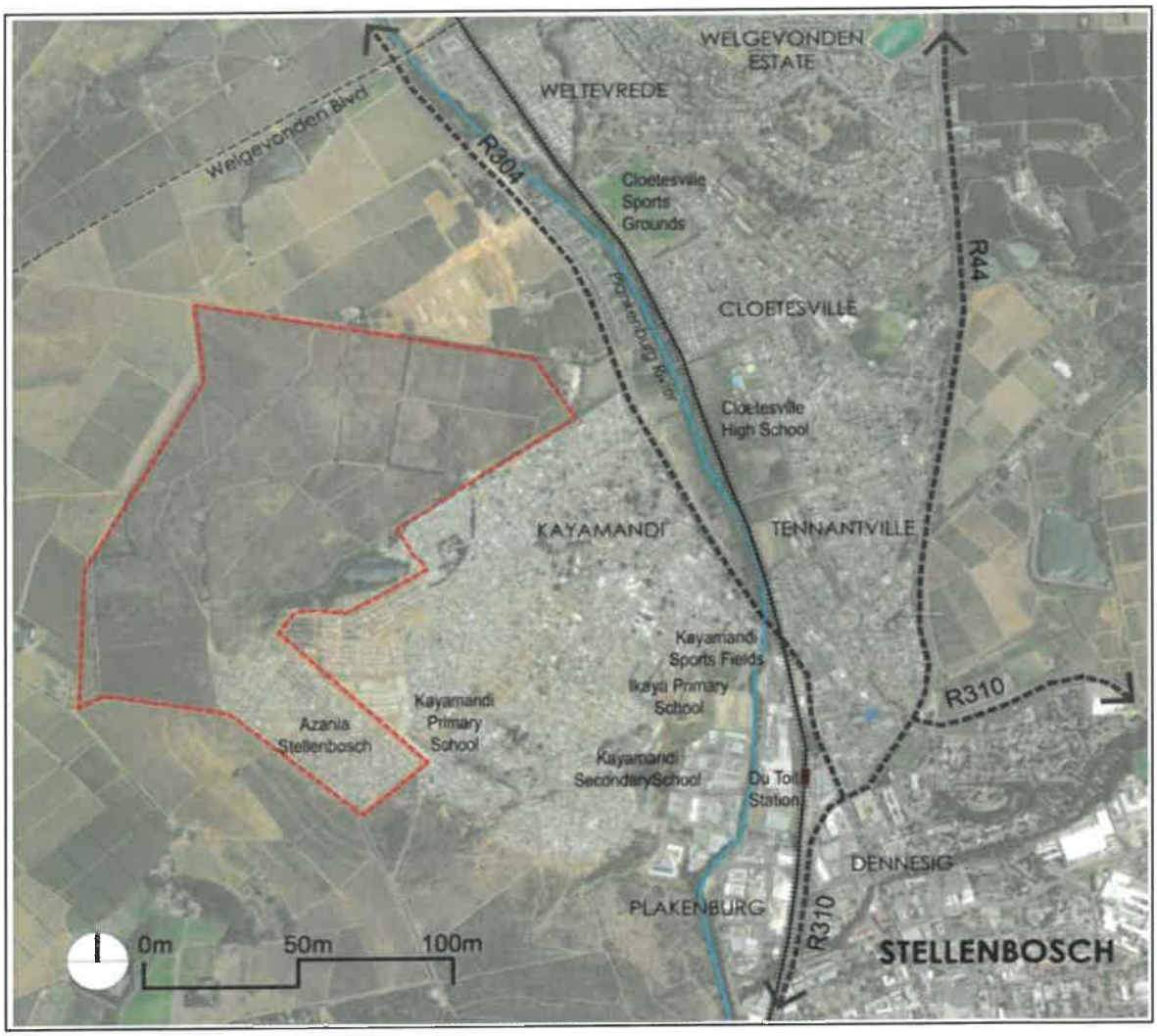


Figure 3 - Locality of the project site.

There are seven land parcels that form the site of application. The following portions of the Farms 182 and 183 Stellenbosch form the site of application, as illustrated in the image below:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

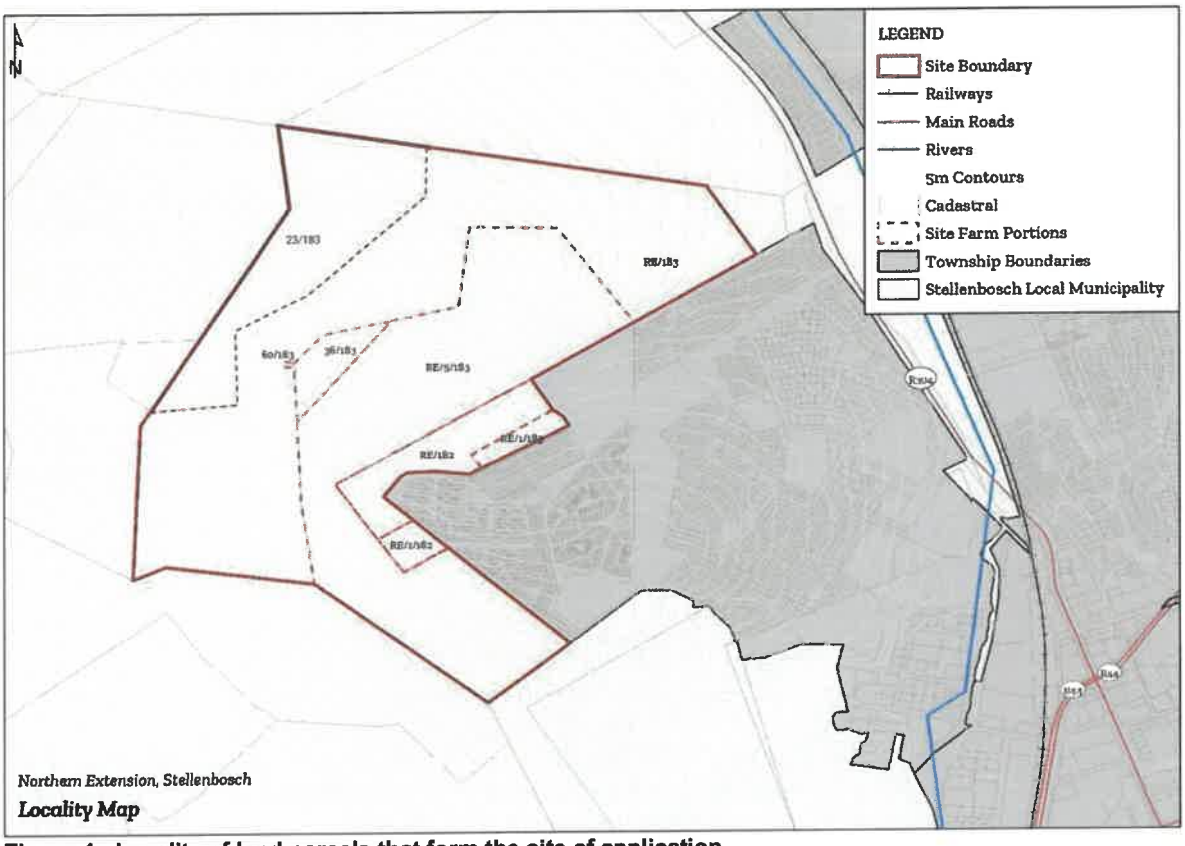


Figure 4 - Locality of land parcels that form the site of application

2.3 Extent

The total extent of the site of application is approximately 142 hectares in extent.

The portion of land to be subdivided is made up of various farm portions as detailed below:

	Property description	Extent	Extent of land parcel included in site of application
1	Portion 23 of Farm 183	20,4239ha	20,4239ha
2	Portion 36 of Farm 183	2,8272ha	2,8272ha
3	Remainder of Farm 182	7,2986ha	7,2986ha
4	Portion of the Remainder of Farm 183	267,6298ha (only a 60.20 ha portion of this land parcel is planned as part of the proposed development)	60.20ha
5	Portion 1 of Farm 182	1,4175ha	1,4175ha
6	Portion 1 of Farm 183	1,3673ha	1,3673ha
7	Remainder of Portion 5 of Farm 183	50,8432ha	50,8432ha
	TOTAL EXTENT OF SITE OF APPLICATION		**± 142 ha**

Table 4 – Extent of site of application

The combined total size of all the land parcels is 351,8075ha, but the area which is planned for the proposed development measures approximately 142 hectares in extent.

See subsequent sections of this report for more detail in this regard.

2.4 Jurisdiction

Stellenbosch Municipality, Western Cape Province, South Africa.

2.5 Restrictive Title Conditions

There are no conditions in the title deed of the property that are deemed as being restrictive to the proposed development.

Please refer to the attached Copies of Title Deeds for each of the land parcels that form the site of application (**Annexure C**). Also refer to the Conveyance certificates for each land parcel attached as **Annexure D** confirming that there are no restrictive conditions that are deemed as being restrictive to the proposed development.

2.6 Surveyor General Diagrams and Servitudes

All the applicable SG diagrams have been sourced from the surveyor general's office. The SG diagrams for the individual properties are attached as **Annexure E**. Also included are all servitude diagrams sources from the surveyor general's office. The existing servitudes have been incorporated into the design of the proposed development.

A detailed contour basemap with confirmation of cadastral boundaries was created and formed the basis for further investigations and layout planning.

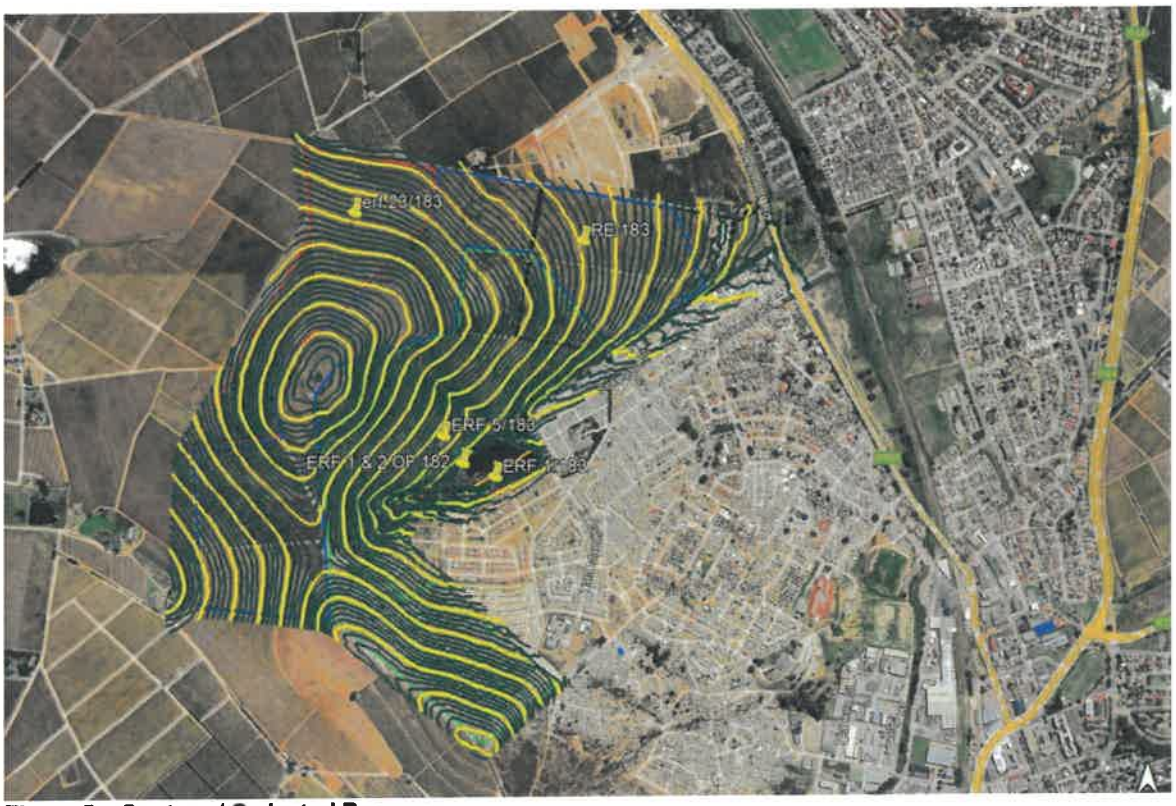


Figure 5 – Contour / Cadastral Basemap

There are a number of existing servitudes that run across the sites. The positions of these servitudes have been incorporated into the design of the proposed development:

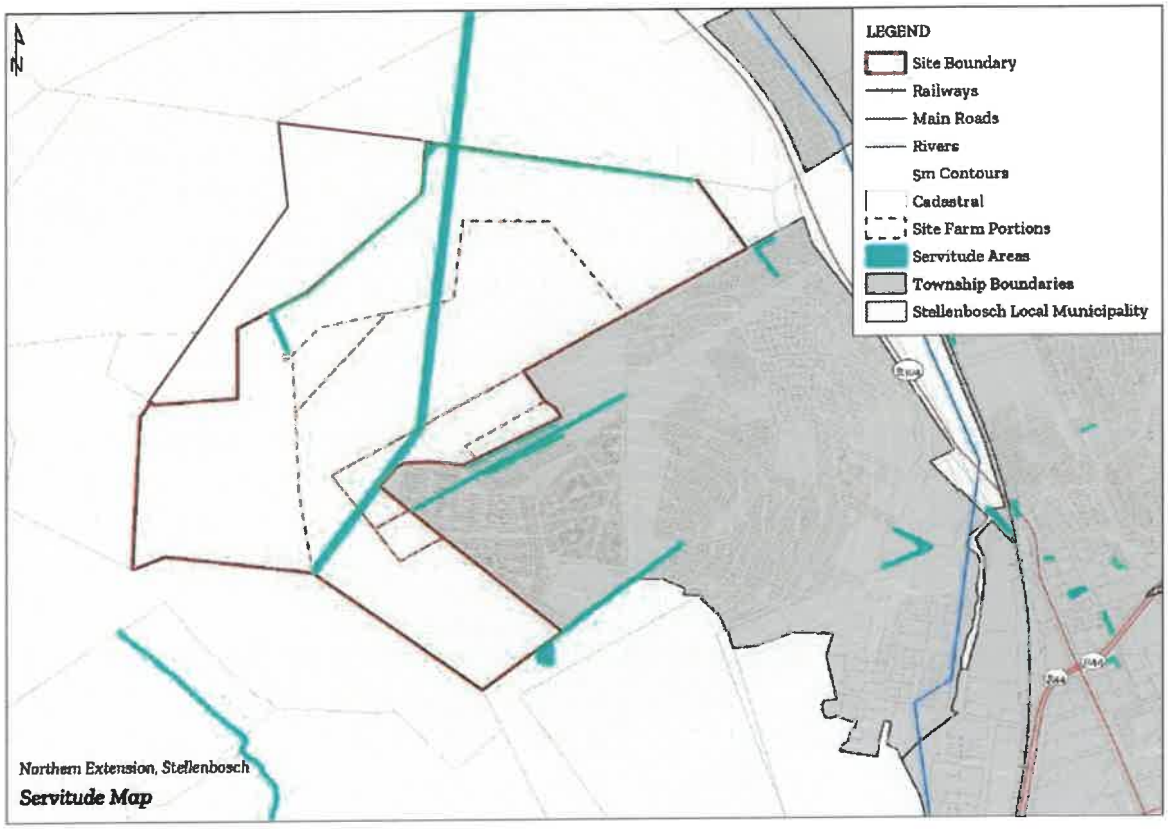


Figure 6 – Servitude Map

See all SG diagrams and Servitude Diagrams attached as **Annexure E.** The contour base map is attached as **Annexure J.**

2.7 Mortgage Bond

There are no mortgage bonds registered against the properties.

Refer to the Conveyance Certificates attached as **Annexure D** for confirmation.

2.8 Applicable Zoning Scheme and Current Zoning

The Stellenbosch Municipality: Zoning Scheme By-Law, 2019 is the applicable Zoning Scheme for the site of application.

According to the Stellenbosch Municipality Zoning Scheme 2019, all land parcels are zoned "**Agriculture and Rural Zone**" with the development controls provided in the table below (See zoning Certificates for each land parcel attached as **Annexure H**):

Table 5 - Current zoning

Property description	Current zoning
Portion 23 of Farm 183	Agriculture and Rural Zone
Portion 36 of Farm 183	Agriculture and Rural Zone
Remainder of Farm 182	Agriculture and Rural Zone
Remainder of Farm 183	Agriculture and Rural Zone
Remainder of Portion 1 of Farm 182	Agriculture and Rural Zone
Remainder of Portion 1 of Farm 183	Agriculture and Rural Zone
Remainder of Portion 5 of Farm 183	Agriculture and Rural Zone

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MUNISIPALITEIT • UMASIPALA • MUNICIPALITY

Our Ref : *183/1 S*
Contact person : *N Defeti*
Contact no : *(021) 808 8640*
Date : *26 July 2023*

ZONING CERTIFICATE

Farm No. 183/1, Stellenbosch Division, Province of the Western Cape

1. ZONING SCHEME PROVISIONS APPLICABLE TO THE SUBJECT PROPERTY

In accordance with the Stellenbosch Zoning Scheme Bylaw 2019, the base zone allocated to the above property, is:

AGRICULTURE & RURAL ZONE

In terms of the provisions of the said Bylaw, this base zone may provide for the following Primary, Additional and Consent land uses:

PRIMARY USES PERMITTED	ADDITIONAL USES (Technical approval) Land development requiring technical approval in terms of Section 15 of the Stellenbosch Land Use Planning Bylaw, 2015	CONSENT USE (APPLICATION REQUIRED) Land development requiring approval in terms of Section 15 of the Stellenbosch Land Use Planning Bylaw, 2015
Agricultural building (≤2000m²) Agriculture Dwelling house Forestry Natural environment Occasional use (one event/year) Private road Polytunnel (≤2000m²) Second dwelling Employee housing (one unit)	Agricultural building (>2000m²) Agricultural industry (<2000m²) Bed and breakfast establishment Employee housing (exceeding one unit) Guest house Home day care centre Home occupation practice Polytunnel (≥2001m² and ≤5000m²) Rooftop base telecommunication station Tourist dwelling units Tourist facility (existing buildings)	Abattoir Additional dwelling units (max 4) Airfield Airstrip Agricultural industry (≥2000m²) Camping site Day care centre Freestanding base telecommunication station Helicopter landing pad Intensive feed farming Kennel Market Occasional use (>one event/year) Plant nursery Polytunnel (>5000m²) Renewable energy structure Service trade Tourist accommodation establishment Tourist facility (new buildings or exceeding threshold) Any additional use exceeding the threshold set out in this chapter

Page 1 of 2

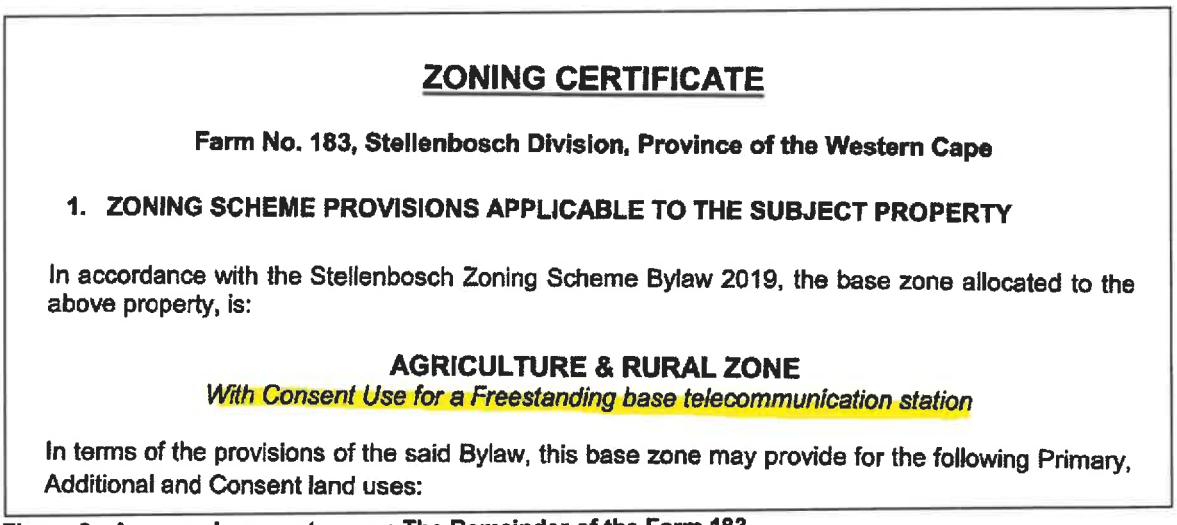
T: +27 21 808 8111 • F: +27 21 886 6899
Plein Street, Stellenbosch, 7600 • PO Box 17, Stellenbosch, 7599
www.stellenbosch.gov.za

Figure 7 - Zoning Certificate for Portion 1 of the Farm 183 Stellenbosch

Zoning	Agriculture and Rural Zone
Primary uses permitted	• Agricultural Building (smaller than 2000m2) • Agriculture • Dwelling House • Forestry • Natural Environment • Occasional Use • Private Road • Polytunnel (smaller than 2000m2) • Second Dwelling • Employee housing (one unit)
Additional Uses (Technical Approval) Land development requiring technical approval in terms of Section 15 of the Stellenbosch Land Use Planning Bylaw, 2015	• Agricultural Building (larger than 2000m2) • Agricultural Industry (larger than 2000m2) • Bed and Breakfast establishment • Employee housing (exceeding one unit) • Guest house • Home day care centre • Home occupation practice • Polytunnel (larger than 2001m2 and smaller than 5000m2) • Rooftop base telecommunication station • Tourist dwelling units • Tourist facility (existing buildings)
Consent Uses (Application Required) Land development requiring technical approval in terms of Section 15 of the Stellenbosch Land Use Planning Bylaw, 2015	• Abattoir • Additional dwelling units (max 4) • Airfield • Airstrip • Agricultural industry (larger than 2000m2) • Camping site • Day care centre • Freestanding base telecommunication station • Helicopter landing pad • Intensive feed farming • Kennel • Market • Occasional Use • Plant nursery • Polytunnel (larger than 5000m2) • Renewable Energy structure • Service trade • Tourist accommodation establishment • Tourist facility (new buildings or exceeding threshold) • Any additional use exceeding the threshold set out

Table 6: Current Development Controls

The zoning certificate for the Remainder of the Farm 183 confirms that a consent use has been approved for a freestanding base telecommunication station:



ZONING CERTIFICATE

Farm No. 183, Stellenbosch Division, Province of the Western Cape

1. ZONING SCHEME PROVISIONS APPLICABLE TO THE SUBJECT PROPERTY

In accordance with the Stellenbosch Zoning Scheme Bylaw 2019, the base zone allocated to the above property, is:

AGRICULTURE & RURAL ZONE
With Consent Use for a Freestanding base telecommunication station

In terms of the provisions of the said Bylaw, this base zone may provide for the following Primary, Additional and Consent land uses:

Figure 8 - Approved consent use on The Remainder of the Farm 183

No additional, consent or temporary land uses have been approved on the other land parcels that form the site of application.

The property may only be used for the permitted land uses detailed above and for no other purpose.

The proposed development is therefore not aligned with the current zoning and the property will need to be rezoned to accommodate the development proposal.

The zoning of the land parcels are confirmed in the zoning certificates attached in **Appendix H** and illustrated in the image below.

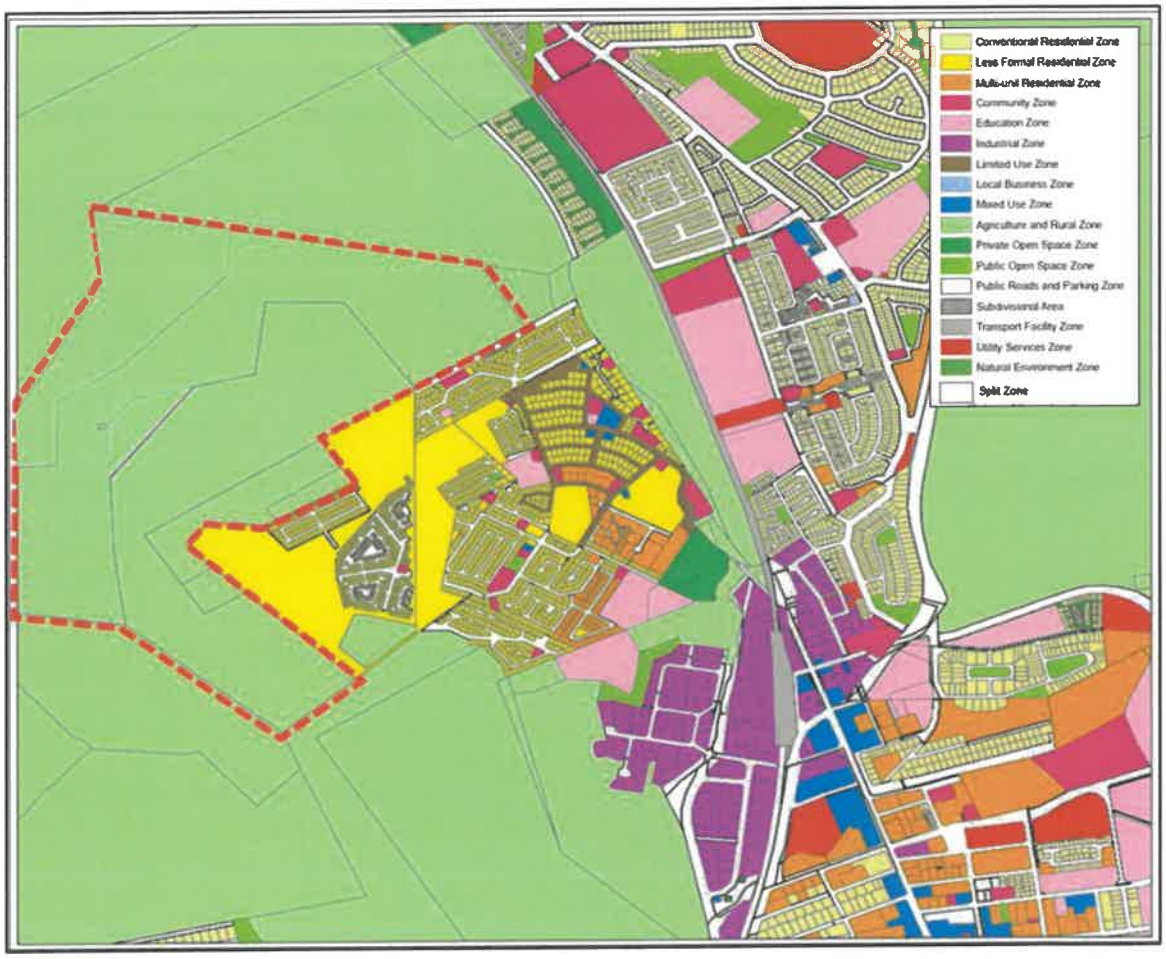


Figure 9 - Zoning of the land parcels that form the site of application according to the Stellenbosch Municipality Zoning Scheme 2019 (all portions zoned "Agriculture and Rural Zone")

2.9 Analysis and Site Photos

The Northern Extension site is situated within the Stellenbosch Local Municipality (LM) which is located in the southwestern corner of the Cape Winelands District - Western Cape Province. The proposed development. The project site is located to the west the R304, north of Kayamandi, and is made up of various farm portions.

The site is situated north of an informal settlement and is currently without any building structures, however other infrastructure such as a powerline servitude and a radio tower is existing on the project site as shown in the images below.

The site is predominantly covered with agricultural activity and the topography of the study area offers views in all directions, with shallow valleys, accommodating natural drainage lines to the north-east and south of the site.

See the below associated images for more detail with regards to the above mentioned

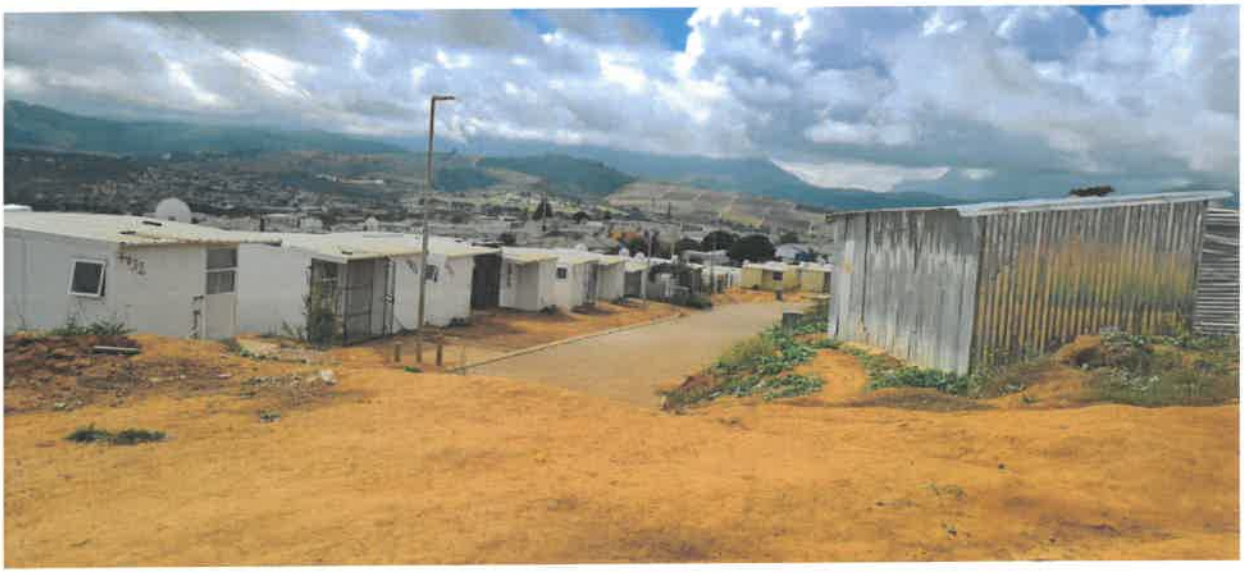












2.10 Topography

A topographical survey of the Northern Extension Site was conducted by Joubert & Brink Surveyors. The figure below illustrates the topographical map of the area, with 2m contour intervals and existing infrastructure on the site.

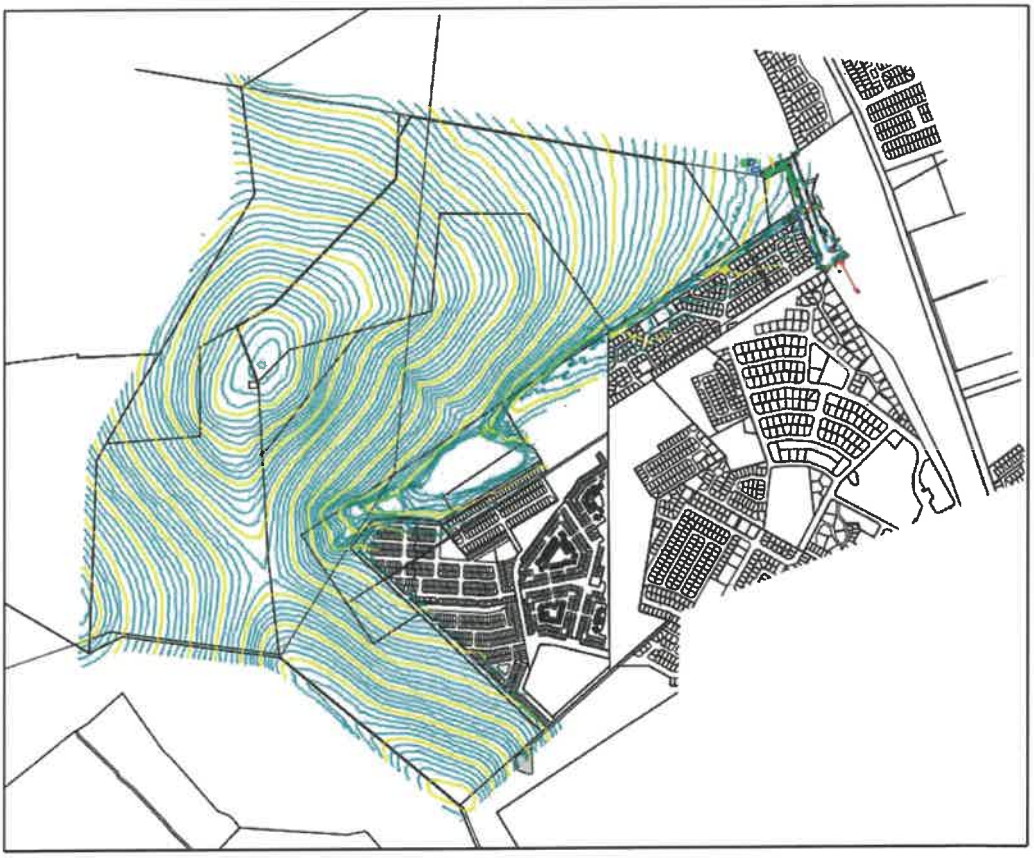


Figure 10 - Topographical survey map

Topographically the development area includes a substantial hill at the centre of the site with footslopes fanning out towards the erf boundaries. A small wetland exists in the north-eastern part of the site.

The contour base map is attached as **Annexure J.**

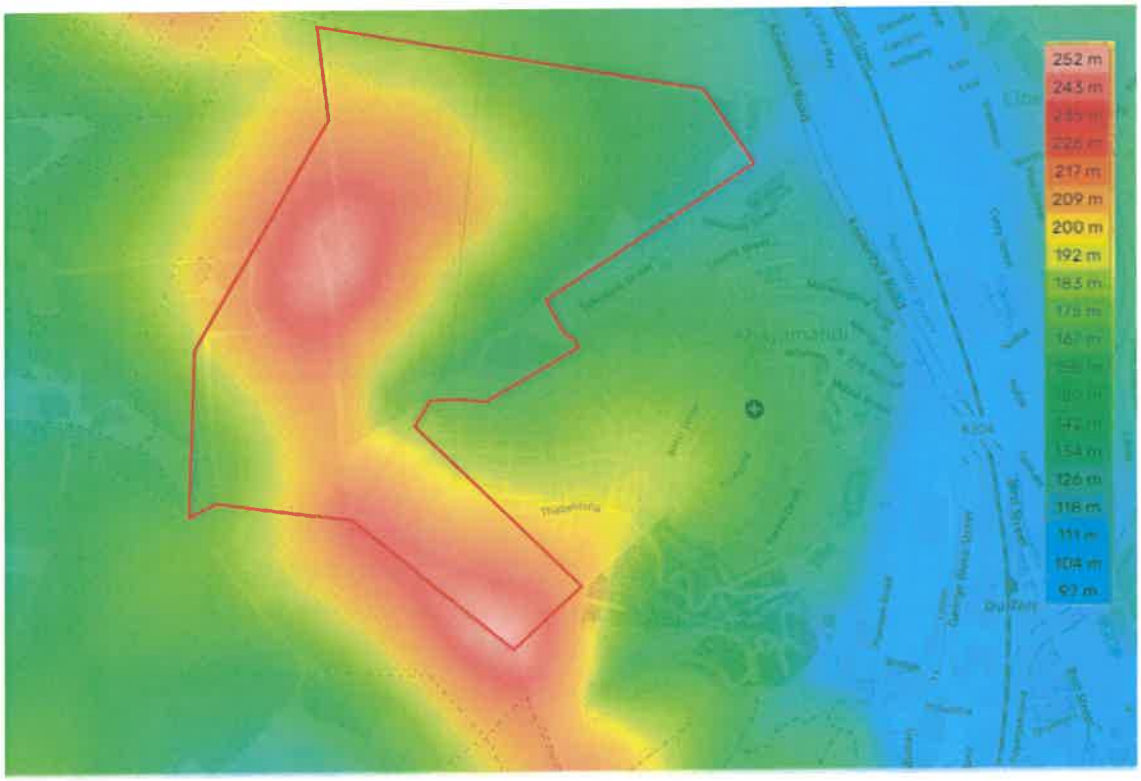


Figure 11 – Northern Extension topography, elevation & terrain

2.11 Current Land Use

The site of application is undeveloped and is mostly vacant except for the informal settlements that occur on the southern parts of the site.

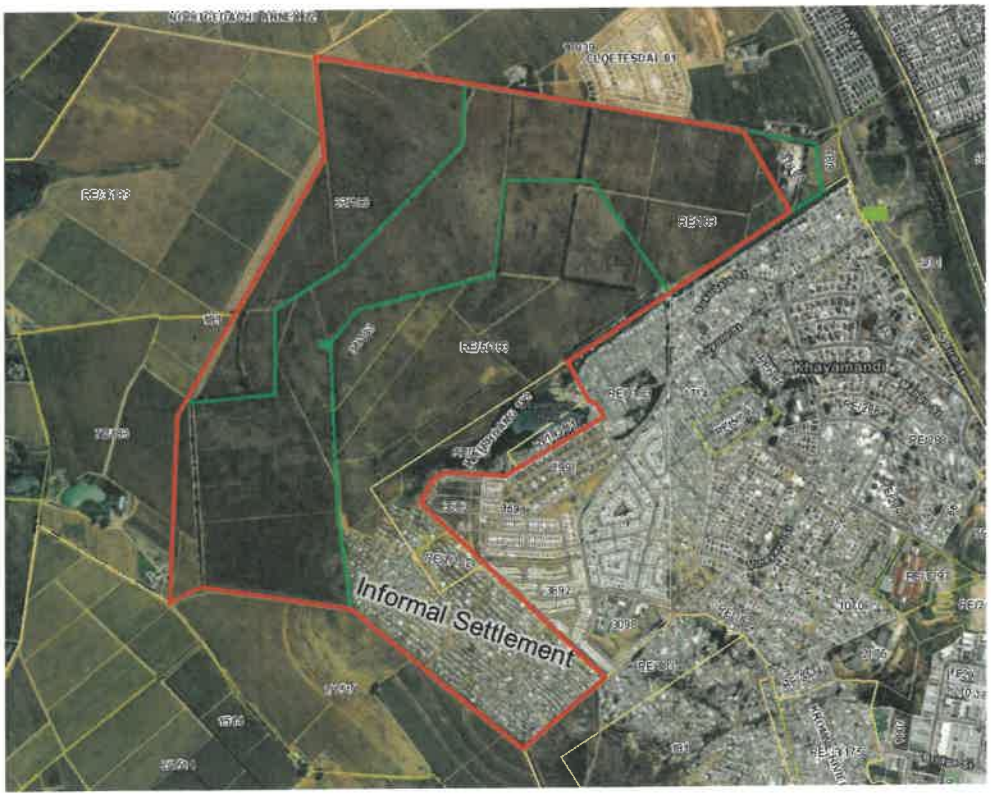


Figure 12 - Current Land Use

3 PROPOSED DEVELOPMENT

The development vision is to create an urban development that is a piece of Stellenbosch, integrated and connected into its context. A development that is safe and secure, with a dignified living environment that provide a diverse range of housing, recreational, social and has economic opportunities for communities living on and around the area.

The proposed urban design framework aims to achieve flexible development blocks that support a variety of development typologies that are site specific, a system of links and connections to support integration across the site and surrounding areas, and a variety of mixed uses including integrated open space systems with existing natural features.

Refer to the Urban Design Framework attached as **Annexure K**.

3.1 Development Vision

The development vision that have been crafted for the proposed **Northern Extension Integrated Mixed-Income Human Settlement Development**, which is an ***urban development*** that is a piece of Stellenbosch, integrated and ***connected*** into its context.

A ***safe and secure***, ***dignified living environment*** that provides a ***diverse range*** of housing, recreational, social and economic opportunities for communities living on and around the site.

Connected with the landscape, designing with the terrain and ***celebrating natural features.***






3.2 Urban Design and Spatial Contextual Analysis

The development potential of the site has been evaluated from an engineering, planning and environmental perspective, through an extensive series of investigations and studies performed by the multi-disciplinary team of professionals over a period of several months.

A Broad Conceptual Urban Design framework has been formulated for the Northern Extension, Stellenbosch, to guide the development framework and to inform and lead to the development of a detailed subdivision layout plan that forms the basis of the rezoning and subdivision application.

The urban design and spatial contextual analysis assessed all the site constraints and informants which lead to a number of opportunities and constraints that informed the main structuring elements which have been incorporated into the design of the proposed Northern Extension Integrated Mixed-Income Human Settlement Development.

3.2.1 Broad Scale Context: Northern Extension study area as a viable future regional gateway and node.

At the broad scale analysis, the study area - together with the integration and growth of Kayamandi (south of study area boundary), Cloetesville (east across the R304 mobility route) and the future development at Newinbosch (north of the study area boundary) - present an opportunity to become a regional subsidiary node to Stellenbosch town and importantly a potential gateway entering and exiting Stellenbosch town. This is due to:

1. Regional accessibility
    a. 3km from Stellenbosch
    b. 5km from Cloetesville
    c. 30km from Bellville
    d. 35km from Paarl
    e. 40km from Franshoek
    f. 50km from Cape Town
2. Existing transport infrastructure
3. Employment proximity
4. Gateway to Paarl Winelands (north) and Stellenbosch Winelands (south)

The smaller settlements within the Stellenbosch Local Municipality include Jamestown, Pniel, Johannesdal, Lanquedock, Lynedoch and Raithby that also contribute to the establishment of the study area and specifically the cultural landscape that reinforces the potential urban node. This is further substantiated by the following spatial considerations from the broad scale analysis surrounding the Northern Extension shown in the Figure below:

1. Existing infrastructure in place (R304, R44, R310, Stellenbosch-Paarl railway line and Station at Kayamandi)
2. Existing development footprint south at Kayamandi extending into the study area and towards Stellenbosch.
3. Existing development footprint east of the R304 and railway at Cloetesville.
4. Proposed approved development north of the study area, connecting Northern Extension to Newinbosh through mobility network and site access.
5. Appropriate for providing localised residential, recreational, and work opportunities in the study area.

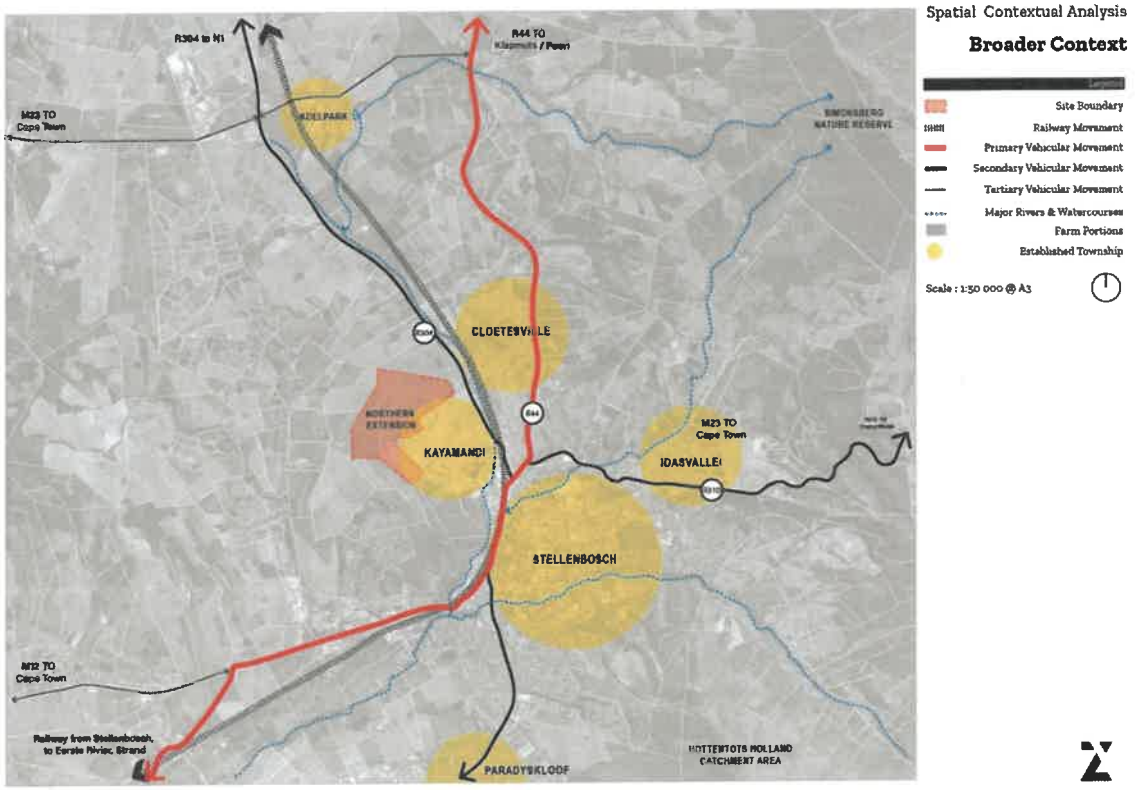


Figure 13 - Northern Extension Broader Context

3.2.2 Broad Scale Context: Landscape, views and vegetation

The topography of the study area offers views in all directions, with shallow valleys, accommodating natural drainage lines to the north-east and south of the site, with Devon Valley that lies beyond the ridgeline of the study area to west. The figure below shows the rural character in relation to the broader region, the indigenous fauna and flora, and the views and vistas of the Stellenbosch agricultural region are emphasised across the study area.

The resultant height advantage and undulating terrain of the Northern Extension study area offers natural scenic vantage points with the site's elevation gain, views of Hottentots Holland Catchment Area can be seen to the south, the Jonkershoek Mountain range in the distance to the west and the Simonsberg Nature Reserve to the north-east.

The mountain range surrounding the study area naturally becomes navigable devices but also exposes the site as a visual landmark when travelling towards Stellenbosch along major arterials, such as the R304 and R44. It is important to take into consideration the key visual impact that the Northern Extension study area will have on the surrounding context.

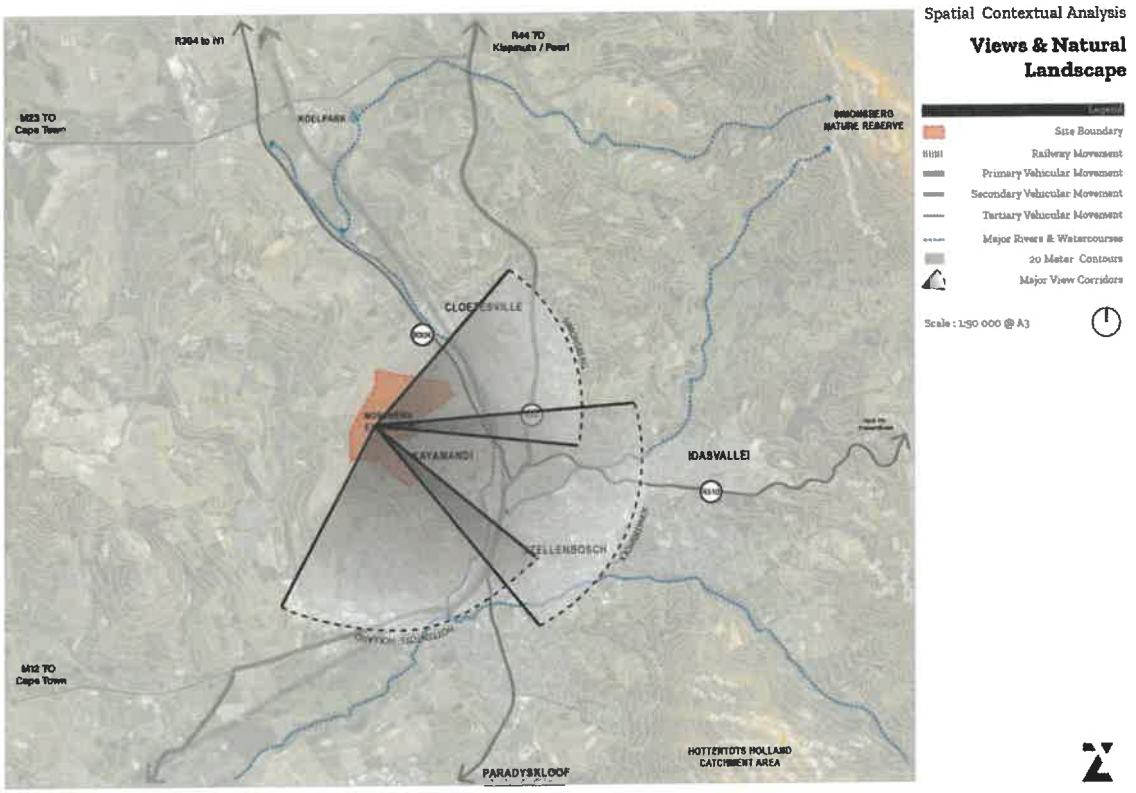


Figure 14 - Northern Extension Views and Natural Landscape

3.2.3 Site Scale Spatial Analysis: Study Boundary

At a more local scale, the figure below shows the study area situated to the north of Stellenbosch, separated by the established township of Kayamandi immediately abutting the study area to the south. As listed above, the study area currently consists of portions of the farms De Watergang and Grootvlei.

Cloetesdal Farm is situated to the north-east of the study area. Spatially, the east of the study area consists of the R304 movement corridor which presents itself as a strong north-south structuring element, this is compounded by the wetland corridor with Plankenberg River, the R44 another major arterial and the railway. These strong mobility and wetland corridors are primary connectors and amenities to the broader study area but also act as barriers for integration between the established township Cloesteville to the east.

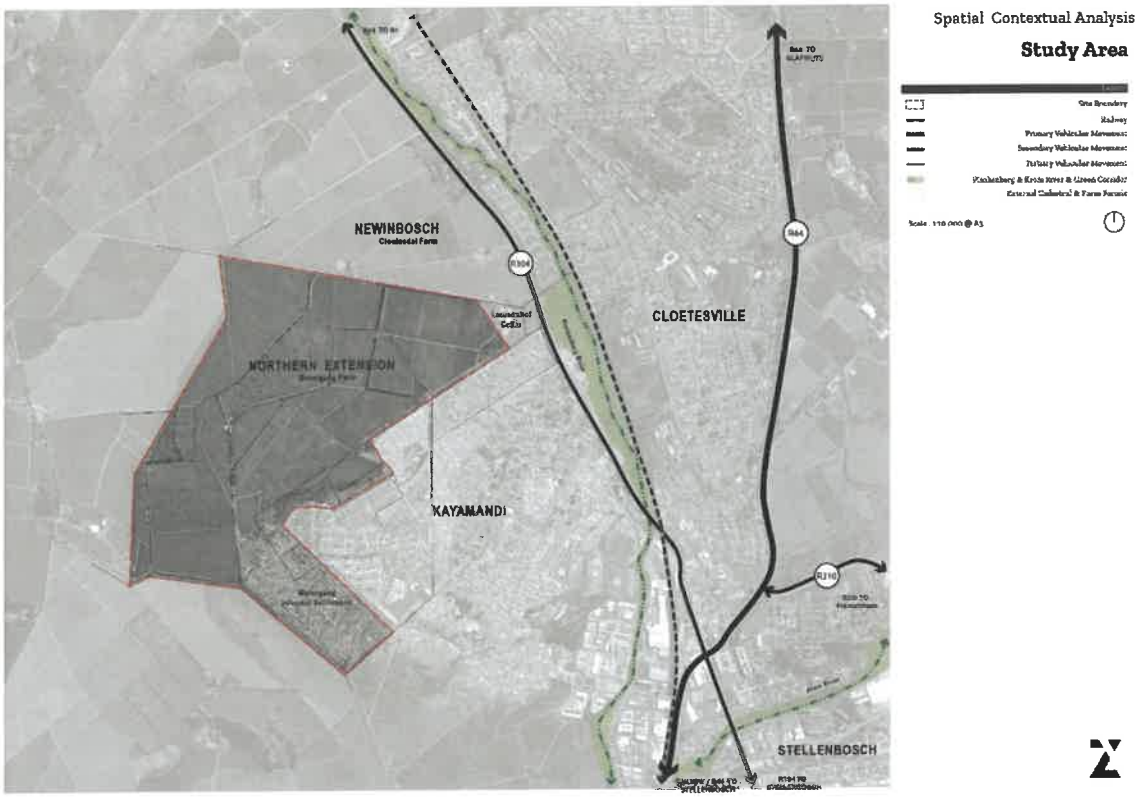


Figure 15 - Northern Extension Study Area

3.2.4 Site Scale Spatial Analysis: Movement Network

The Northern Extension study area has the potential to integrate and connect with the north-western road network at the proposed NewinBosch development and Kayamandi township south-east. Notably both of these areas offer the primary access and gateways to the study area. The Northern Extension study area has the opportunity to weave together the landscape systems and relevant farm road networks with the future development north and established township south.

With better connectivity, residential developments, existing amenities, and character areas can flourish, intensify, and integrate better across the study area and its surrounds. This in turn connects isolated road grid paths and integrates the urban fabric together too. This will allow development to contribute to the growth and integration of the core precincts, thereby becoming more resilient, diverse and with a distinctive sense of identity that is resilient alongside Cloetesville and Stellenbosch.

One of the greatest impediments or constraints to the resilience and integration of the study area, both internally and with the broader urban environment, is the current lack of direct access to the major movement route of the R304 (Class 2). An additional future access to the R304 is therefore planned to ensure greater connectivity and to relieve the traffic impact of a single access point.

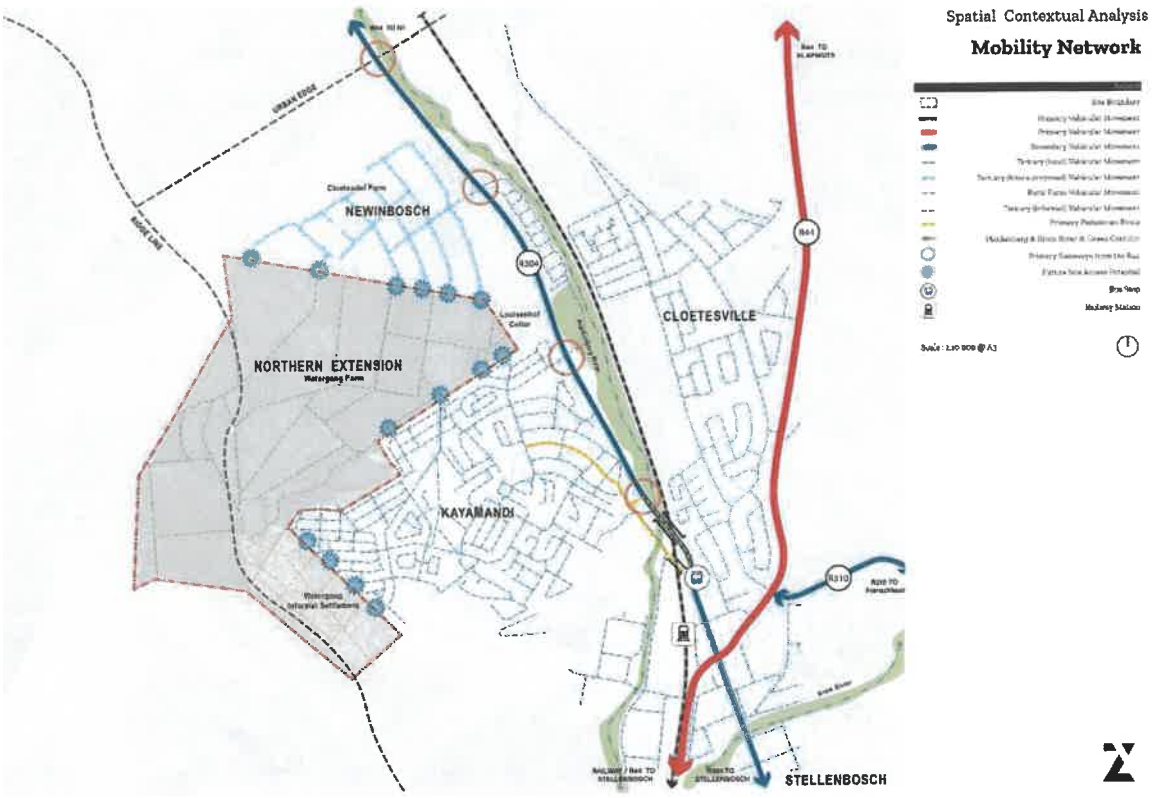


Figure 16 – Northern Extension Mobility Network

3.2.5 Landscape Systems

The general visual ethos of the surrounding area of Northern Extension is its natural 'green and rural feel', created by a significant number of mature trees and undulating terrain. The figure below shows the study area with respect to its natural landscape such as the Swartland Alluvium Fynbos Vegetation and Swartland Granite Renosterveld Vegetation groupings. Both the vegetation types are comprised of a rich list of indigenous faunal and floral species that can further introduced across the study area to benefit the overall public realm, living quality and rural character of the housing development scheme, thereby increasing its biodiversity, aesthetic, open space systems and overall character.

It would be vital to create, where possible, continuous vegetation and ecological corridors, such as connecting the Plankenberg River Corridor with the low-lying wetland at Watergang Dam, south of the study area. This can be achieved through managed rehabilitating of suitable species across the study area and the eradication of invasive or exotic species.

The site slopes down from west to east towards the R304, and from north to south towards Kayamandi, with a high point situated to the north-western part of the site. The topography offers views in all directions, with shallow valleys, accommodating natural drainage lines to the north-east and south of the site where Watergang Dam is located. The topography also creates a physical constraint from a development perspective and as a visual exposure perspective when travelling along the R304.

The site is still planted with vineyards, but these are not being maintained and a significant percentage seems to have been removed for firewood. Some treelines have established at the Watergang Dam with olive trees, planted along the edge of the drainage line which offer a functional wind barrier but also great aesthetic value to the site. There is also windbreak at the northern boundary that screens half of the study area's edge from the R304. These trees are a design informant that have been incorporated in the design of the proposed development.

Because of the rural landscape and agricultural character of the area, the land west of the steep ridge line, at Devon Valley, has historical value that cannot be built on but rather emphasised for its existing character which have been retained as a site fix in the layout design.

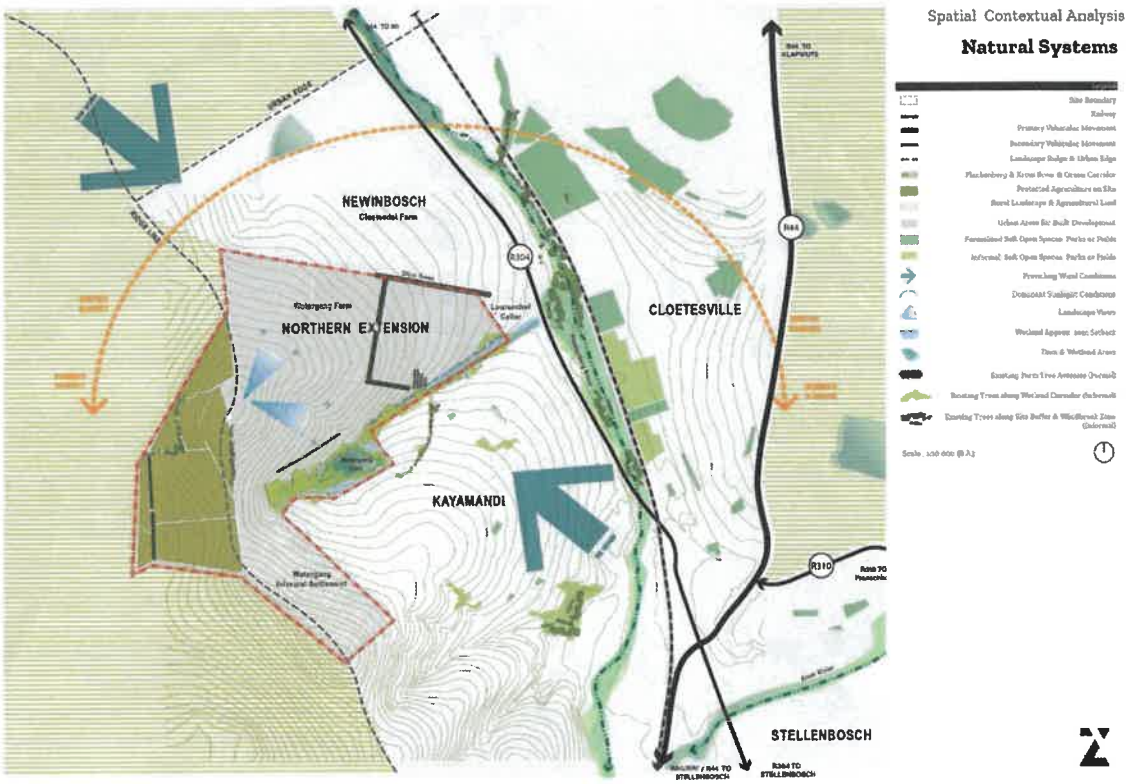


Figure 17 - Northern Extension Natural Systems

3.2.6 Heritage Systems

The heritage assessment recognises that the study area is situated within the Cape Winelands region which is broadly considered as an area of high scenic, cultural and historical significance, identified as a 'cultural landscape'. The Cape Winelands is characterized by the interplay of patterns of 'urban' townscape, 'rural' landscape and mountain 'wilderness' which is evident in this study area.

The site significance includes its visible location in a rural landscape which was denoted in the diagrams above. This specifically includes both the Plankenburg and Devon Valleys. The figure below illustrates the landscape that is a protected heritage area and is restricted from urban development.

Consequently, limitations are also applied to the intensity of development as the topographies gains elevations to sensitively respond to the rural character from visual site lines. As such, the proposed development is planned to not encroach on the portion of the site to the west of the ridgeline that separates Devon Valley and Plankenburg Valley.

To the east of this ridgeline, the planned urban development is kept at low density, specifically on the upper slopes that are visible landmarks, but some higher densities planned lower down. This is demonstrated in the figure below with the gradual intensity of yellow hues, suggestive of residential densities.

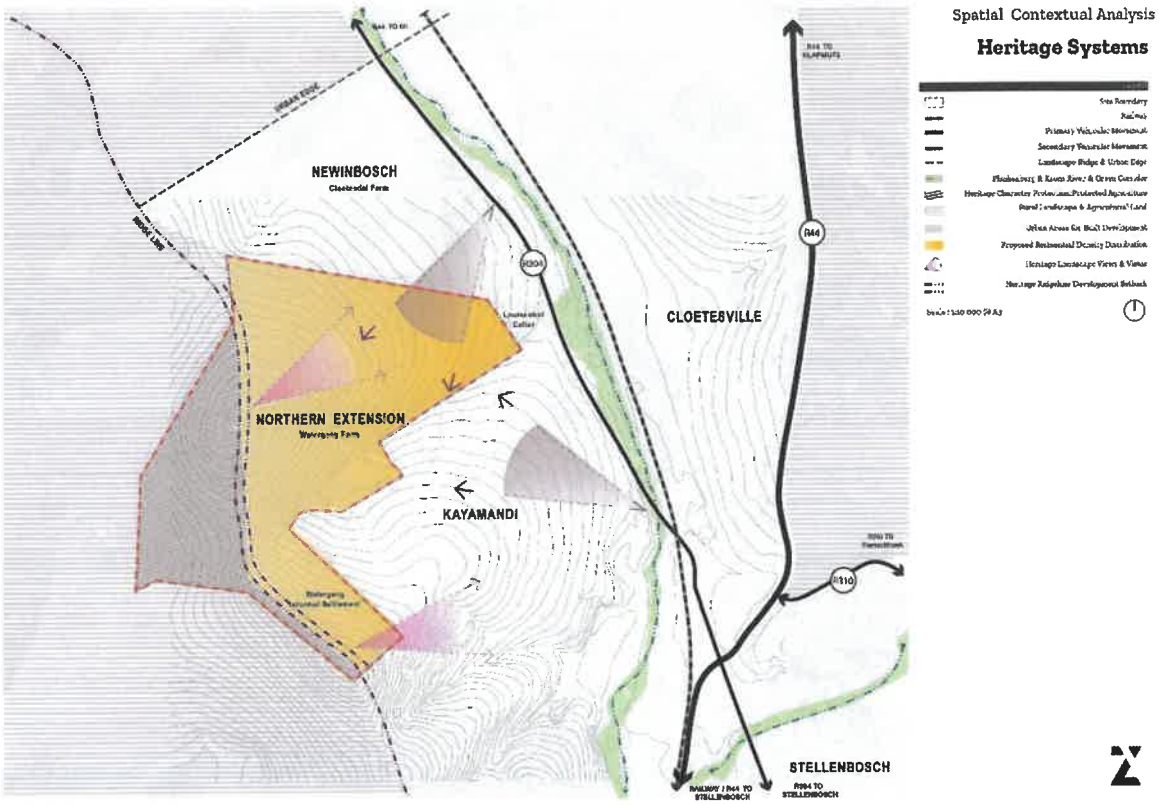


Figure 18 - Northern Extension Heritage Systems

3.2.7 Site Scale Spatial Analysis: Amenities & Community

When comparing the two established township communities surrounding the study area, namely Cloetesville to the east and Kyamandi to the immediate south, there appears to be several core community facilities and established mixed-use amenities in the area of Cloetesville. These facilities include places of worship, medical facilities and sports facilities that are also relatively well maintained and equipped to cater to the respective neighbourhood. The same applies to the number of schools and education opportunities, with additional sports fields included.

Contrast to the immediate South of the study area, at Kayamandi offers fewer facilities available with a growing residential neighbourhood such as the Watergang Informal Settlement. The proposed **Northern Extension Integrated Mixed-Income Human Settlement Development** therefore makes provision for a range of community and recreational facilities that are planned in the proposed development which will cater for the needs of the community and relieve some of the pressure experienced by the existing facilities in Kayamandi.

3.2.8 Morphology and Grain

In the figures below, there is a clear correlation between the scale of the figure ground – grain of the built fabric- to the surrounding land-use character areas in and around Northern Extension. By illustrating the building footprints, the urban morphology and grain of the surrounding area suggests distinctive conditions.

The larger scale footprints clustered around the confluence point of the R304 and R44 are mixed-use which is also where the river corridors, stations and railways networks converge, suggesting diverse activity. This area represents diverse land-use functions and industrial activity, a transitionary space between the surrounding area and Stellenbosch.

These larger footprints tend to extend north-eastwards, flanking the R304 where access to opportunities (railway stations, bridge connectors) are located, this also corroborates with the diverse amenities in this area. A similar sentiment is proposed at Newinbosch development, where most of their mixed-use and retail activity is located closest to their primary gateway and access to the R304.

The remaining two smaller footprint typologies include the formal residential footprints and the finer grain informal and more organic urban infill footprints at the Watergang informal settlement, south of the study area.

A concentration of small building footprints generally indicates a diversity of uses, active streetscapes and interesting character to the local urban environment, contrarily however, these footprints primarily contribute to residential land-use only with little diversity. Notably too, the large undifferentiated buildings mass of industrial areas also has limited street activity and poor-quality public realm which tends to restrict the mixed-uses activity to expand.

With the residential density that is planned across the study area, the proposed development sensitively blends-in with the landscape but also ensure a sense of unique diversity, a quality of space and interest with appropriate diverse land-use offerings.

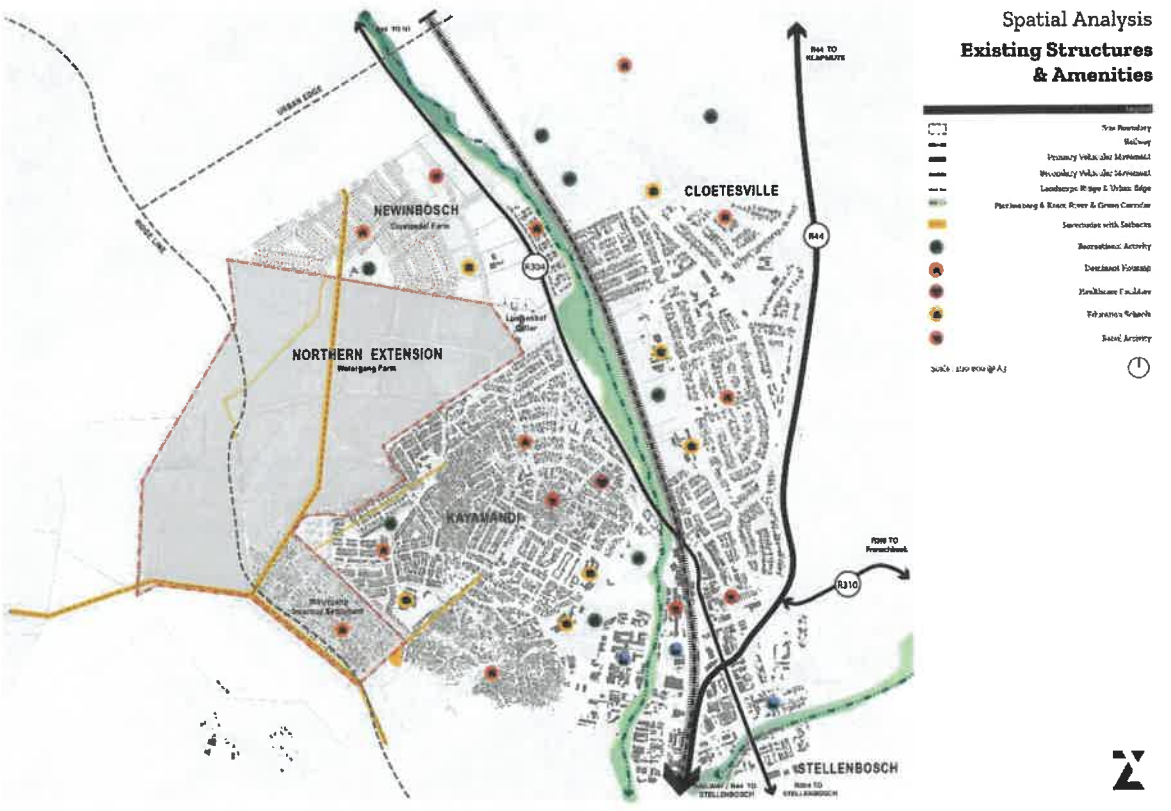


Figure 19 - Northern Extension Existing Structures and Amenities

3.2.9 Land-use character areas and activity nodes

The land use character and activity nodes are illustrated in the figure below. These are connected by movement networks, both vehicular and non-motorised, such as the pedestrian link through Kyamandi towards the station. Activity nodes are also binding agents between diverse land-use characters, through attracting diverse user groups to an area. This can be seen across the study area. Character Areas include:

- Education
- Formalised open space and fields
- Informal (unmaintained) open space

- Medium density residential
- Informal infill residential
- Mixed-uses
- Industrial
- Retail activity among residential areas

Importantly, the character areas shown across the surrounds need to perform and function symbiotically with each other to remain resilient. Whilst strong character areas need to perform and function on their own, they will likely perform better if integrated smartly with neighbouring surrounds making their relationships mutually beneficial and servicing one another.

The land-uses appears to be dominated largely by residential neighbourhoods centred in a rural agricultural region. This will ensure that residents can work closer to where they reside, opposed to working elsewhere and servicing other areas of Stellenbosch economically. Proposing a diverse mix of amenities within the study area, that services its residents, is necessary and will require strategic location distribution.

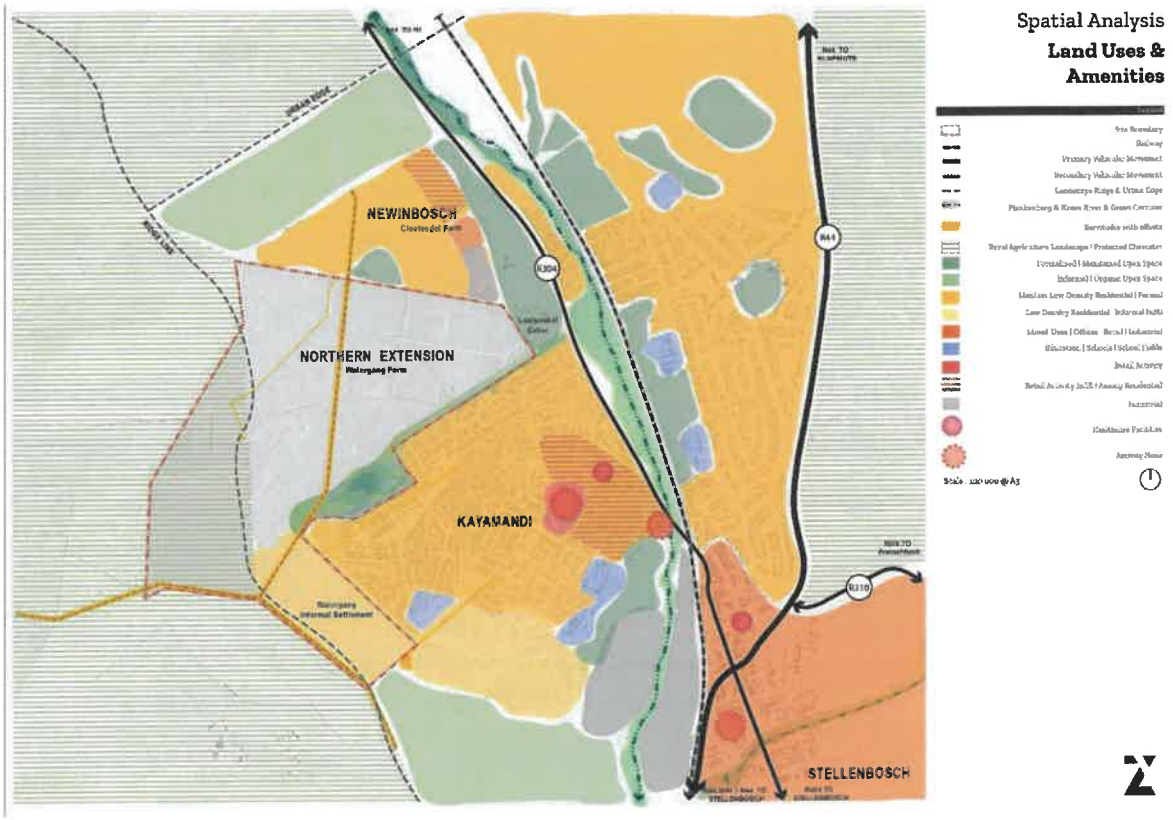


Figure 20 - Northern Extension Surrounding Land Uses & Amenities

3.2.10 Constraints

The figure below shows the limitations and constraints to the study area that are fixed spatial elements that had to be considered when the layout for the proposed **Northern Extension Integrated Mixed-Income Human Settlement Development** was designed. These include the following:

- Steep terrain and topography across the study area
- Steep ridgeline and its development offset that separates the western face of the valley with its respective development to the east
- Protected heritage, rural landscape character west of the ridgeline and at Devon Valley.

- Prevailing winds (south-easter and north westers)
- Wetland along the low-lying areas of the site, at Watergang Dam, with its respective development offset
- Growth of Watergang Informal Settlement south of the site
- Limited major site access
- Electrical servitude across the site and its respective setback.
- Mature treescape to be retained that can conflict with development space requirements

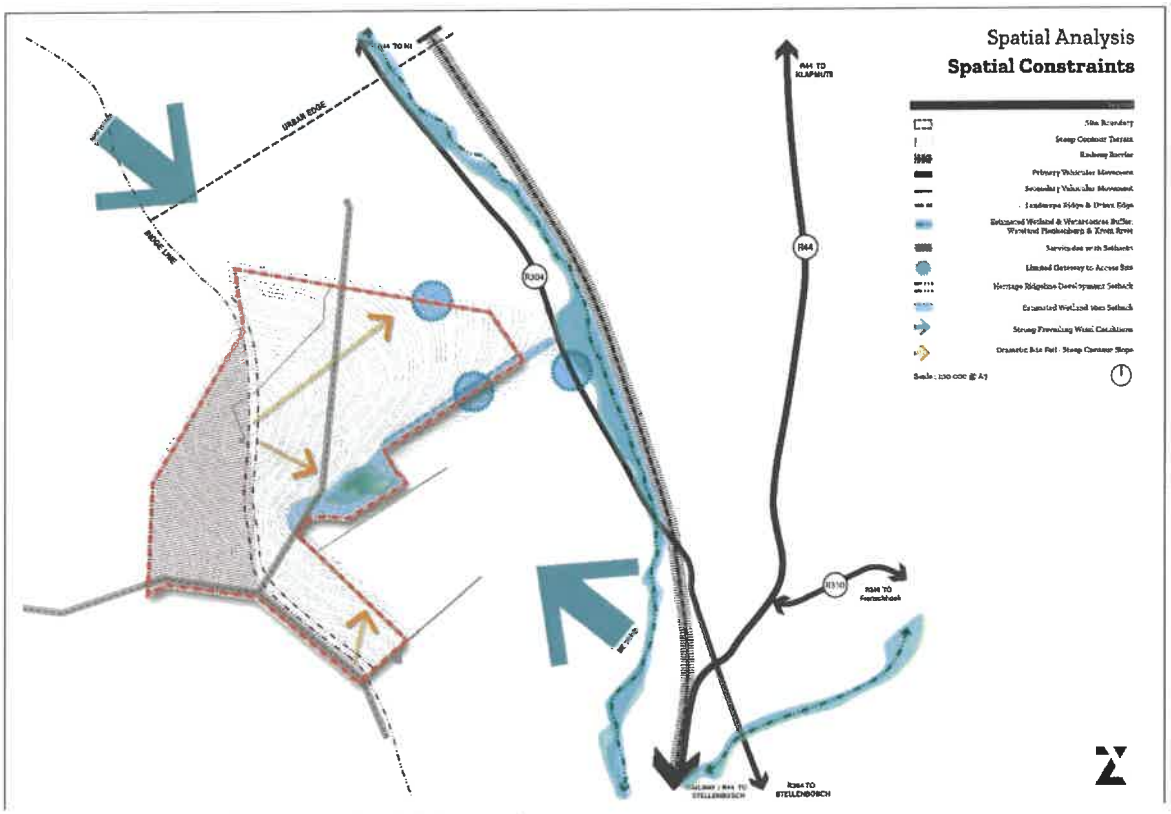


Figure 21 - Northern Extension Spatial Constraints

3.2.11 Opportunities

Much of the spatial analysis highlights spatial constraints and site 'fixers' that has an impact on the design of the proposed development. Several of the same constraints are also regarded as opportunities that can be capitalised in the proposed development as illustrated below:

a) Continuity of green spaces and rural farm regions

The design of the proposed development ensures the continuity and connection of core biodiversity areas, river courses/systems and landscape elements to establish strong green linkages that stitch together the rural agricultural character of the area.

b) Establish a well-defined and designed residential development with open space interfaces

As far as possible, the interface between green spaces and developed area is well designed so that the open space is not overlooked and not flanked by the back of buildings, resulting in a negative relationship between open space and built urban form.

c) Protect and enhance the rural landscape character

All interventions in rural areas are of an appropriate scale and nature to support rural livelihoods, whilst at that same time protecting the sense of place and the agricultural resource base.

d) Promote spatial integration

Integration is facilitated through well-located new development and infill, reducing barriers between communities and enabling more efficient access to facilities and opportunities

e) Enable strategic densification

The low-lying residential areas are densified and activities are clustered in these areas for efficient use of infrastructure and available land whilst maintaining a sense of rural character with less density further west of the study area

f) Enable and promote mixed use

A mix of uses around nodes and along corridors is promoted within and appropriate accessibility grid.

g) Protect and enhance heritage resources

The importance of heritage resources is acknowledged and impacts are carefully managed at all scales of planning and development, from the broader Stellenbosch municipal landscape and its settlement pattern to individual buildings.

H) Ensure connectivity between settlements and hierarchy of nodes and connectivity within settlements

Nodes and communities are connected via safe and attractive public transport and pedestrian friendly routes and activity corridors within a hierarchical accessibility grid.

j) Establish accessible hierarchy of public facilities

New facilities and resources are located so that they relate to the accessibility grid. High order regional facilities are within easy reach of the primary public transport and street network.

k) Cluster Social Facilities

Social facilities and activities are clustered within nodes to optimize accessibility and convenience while also improving security and maintenance.

l) Land-use character areas and activity nodes

Several character areas have been identified across the study area, corresponding to the primary uses within them, which have been incorporated in the design of the proposed development. This also correlates with the types of activity and streetscape environments that are proposed.

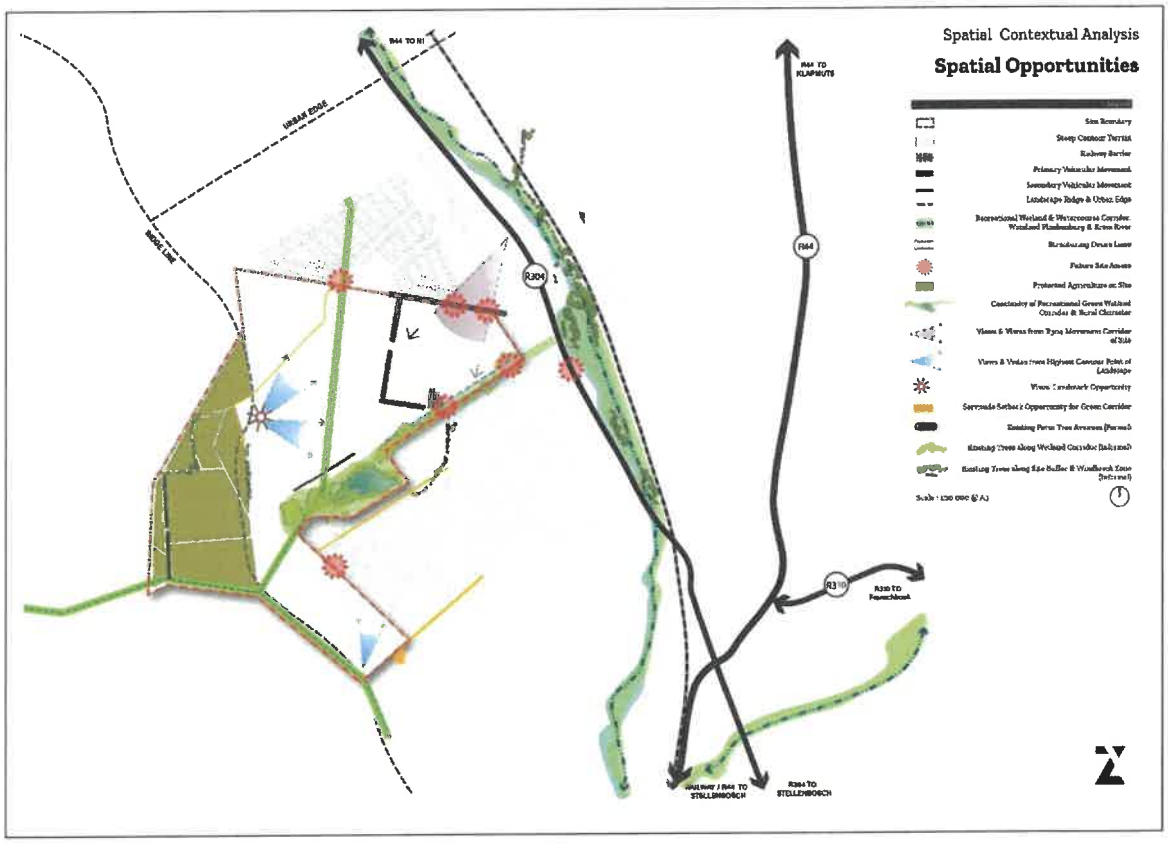


Figure 22 – Northern Extension Spatial Opportunities

3.2.12 Site Structuring Elements

With the 'opportunities of the study area listed above, the figure below synthesises both the opportunities and constraints of the study area which have been used to inform the design of the layout of the proposed **Northern Extension Integrated Mixed-Income Human Settlement Development**.

The Northern Extension Study area is mostly a vacant site, excluding the Watergang Informal Settlement encroaching on the southern panhandle. The site is largely isolated firm the surrounding area as it is flanked on all sides by the Devon Valley and the steep ridgeline, Kayamandi and the Watergang Wetland corridor, the Newinbosch Development, Louisenhof Cellar. The only current direct vehicular access to the site is via the newly constructed access through the Newinbosch Development. The railway line, R304 and the Plankenberg River corridor further separating the site from Cloetesdal eastwards. These bounded edges currently act as barriers of entry, permeability and frontage Northern Extension as a destination.

It is primarily along the residential area of the Kayamandi boundary, the proposed Newinbosch residential development and the panhandle (at the Informal settlement of Watergang), that permeability and suitable access is possible.

It is notable that the rural landscape character offers the opportunity for heritage landmarks optimising on visual vistas and views, whilst also offering indications of suitable residential densities that do not compete with the rural character.

With the rural character and heritage opportunities, additional site fixers are taken into consideration such as the electrical servitude that provide opportunity for stitching green corridors together, including mature treescapes that offer aesthetic value and act as functional windbreaks.

The surrounding amenities and land-use functions start to provide diverse land-use distribution informants to the study area too, such as harnessing the desirable mixed-use activity corridor from the railway station and R304 bridge, to the mixture of activity and uses along the eastern portion of

Kayamandi through to the proposed land-use mix at Newinbosch development. This suggests an opportunity of land-use connectivity and nodal activity to the east of the study area.

Furthermore, the structing elements of the study area largely include the contour as a strong informant across the study area as illustrated below. The undulating terrain and steep slope is regarded as an opportunity that shapes the direction of the development along the escarpment accordingly. This consequently changes the visual direction of building frontages and the development direction which creates a more rural and organic experience, thereby contributing to the rural and organic character of the landscape that diverges from structural uniformity.

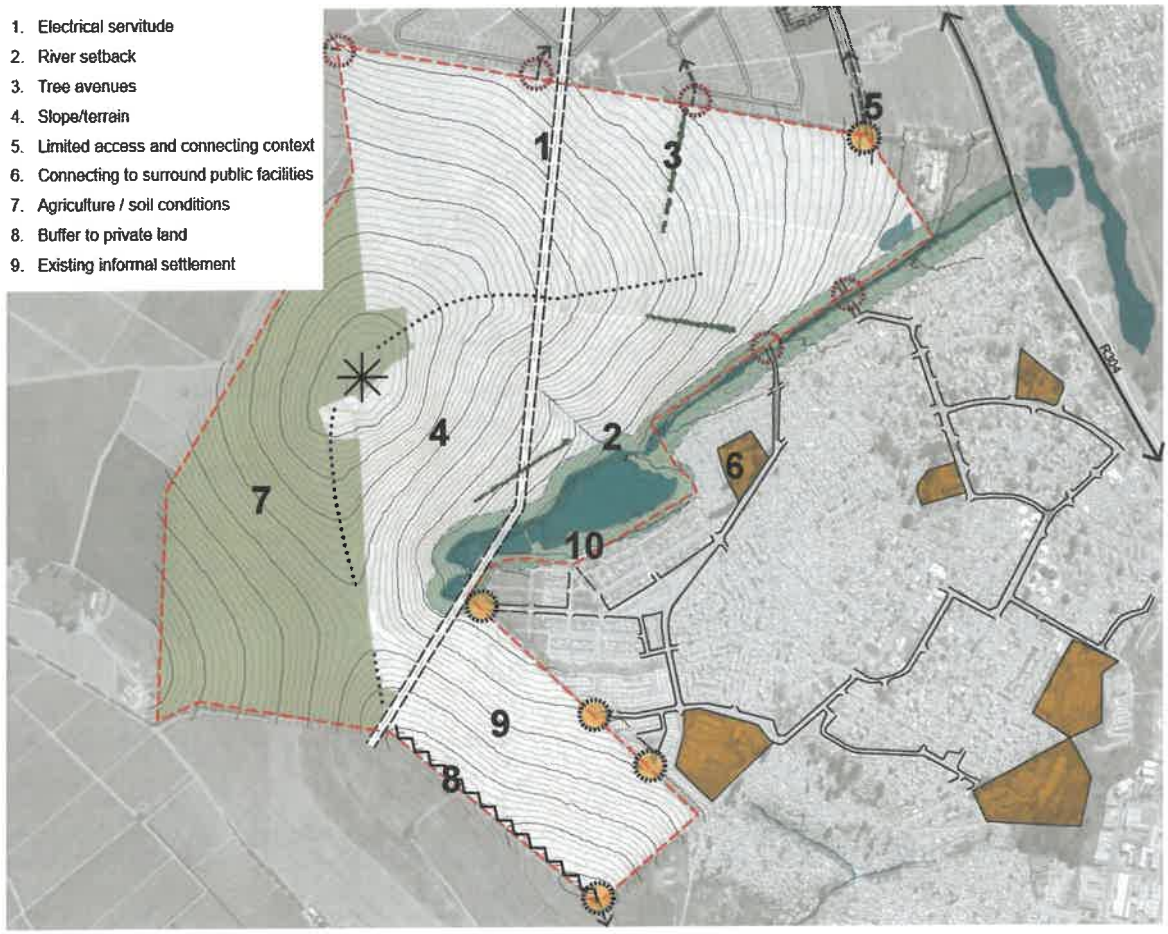


Figure 23 - Northern Extension Site Structuring Elements

3.3 Development Proposal

The figure below illustrates the preferred concept plan, which formed the basis for the subdivisional layout drawing that is part of this application. This concept (development proposal) is based on environmental, social, economic, heritage, infrastructure and urban design inputs from various specialists, and has been further refined as more detailed planning progressed and more in-depth studies were conducted.

The Development proposal includes the following main design elements:

1. A system of structuring routes that support integration across the site and connection to the surrounding context (routes and public facilities)
2. Network of surveilled, multi-functional public spaces that function as vibrant, active and attractive spaces

3. Series of flexible development blocks that support a variation of development typologies to avoid a monotonous and sterile living environment
4. Working with natural system:
    - River and corridor and associated 'central park'
    - Slope and terrain and impact on height and building typologies
5. Mixed use node at the most accessible point of the site and lower slopes allowing for height

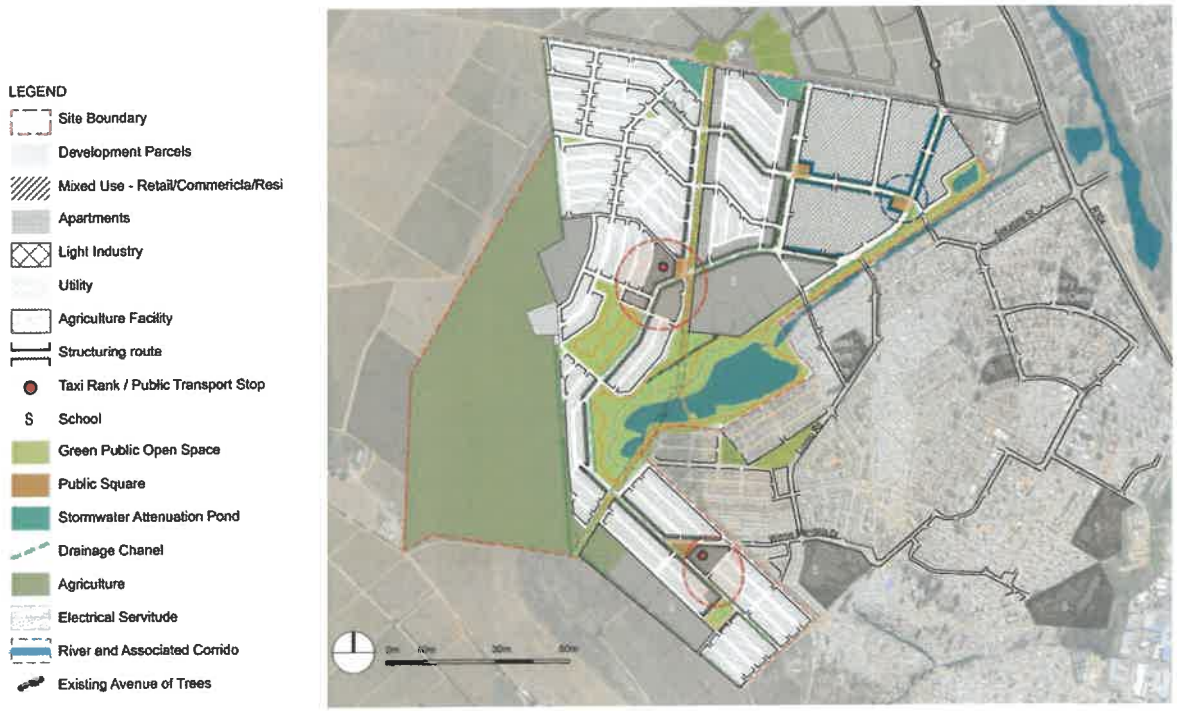
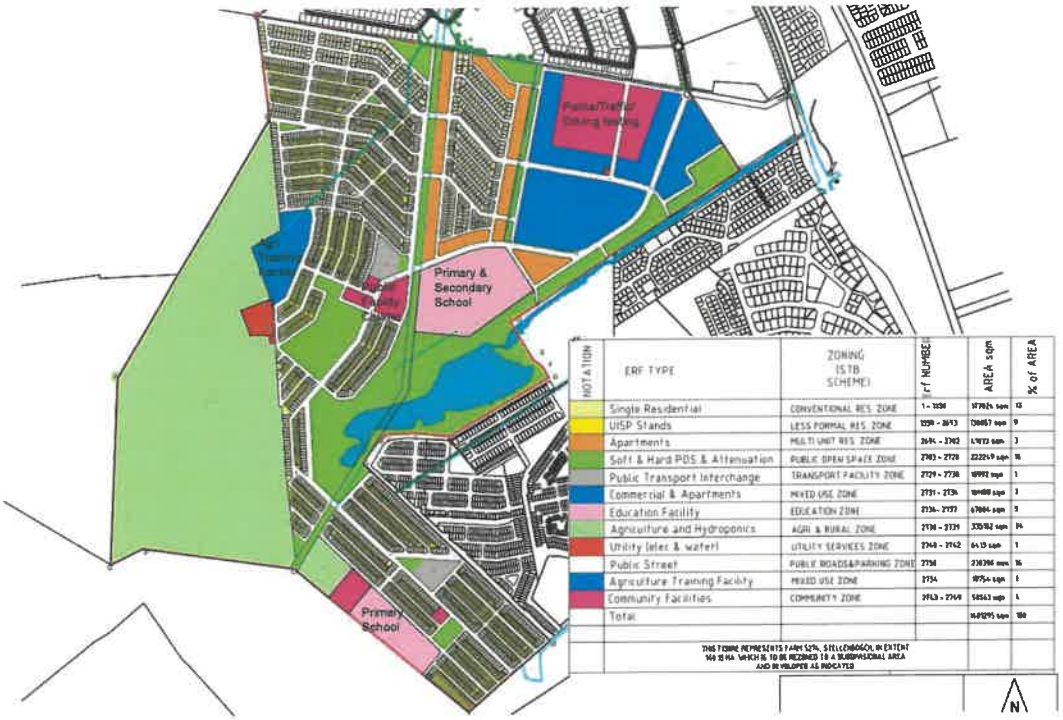


Figure 24 - Development Concept

As more detailed planning and investigations have been conducted, the development concept has been further refined and improved to culminate in the proposed subdivision layout plan that forms the basis of this rezoning/subdivision application, as illustrated below:



NOTATION	ERF TYPE	ZONING (STB SCHEME)	erf NUMBER	AREA sqm	% of AREA
	Single Residential	CONVENTIONAL RES. ZONE	1 - 1258	378674 sqm	13
	UISP Stands	LESS FORMAL RES. ZONE	1259 - 2693	138857 sqm	9
	Apartments	MULTI UNIT RES. ZONE	2694 - 2702	47972 sqm	3
	Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE	2703 - 2728	222249 sqm	15
	Public Transport Interchange	TRANSPORT FACILITY ZONE	2729 - 2730	18992 sqm	1
	Commercial & Apartments	MIXED USE ZONE	2731 - 2736	39488 sqm	3
	Education Facility	EDUCATION ZONE	2736 - 2737	67004 sqm	5
	Agriculture and Hydroponics	AGRI & RURAL ZONE	2738 - 2739	370782 sqm	24
	Utility (elec & water)	UTILITY SERVICES ZONE	2740 - 2742	6415 sqm	1
	Public Street	PUBLIC ROADS&PARKING ZONE	2738	238396 sqm	16
	Agriculture Training Facility	MIXED USE ZONE	2734	19754 sqm	1
	Community Facilities	COMMUNITY ZONE	2743 - 2749	54563 sqm	4
	Total			1492295 sqm	100

THIS FIGURE REPRESENTS FARM 527, STELLENBOSCH, IN EXTENT 160.12 HA WHICH IS TO BE REZONED TO A SUBDIVISIONAL AREA AND IN VILLIPOST AS INDICATED

Figure 25 - Northern Extension Integrated Mixed-Income Human Settlement Development Subdivision Layout

3.4 Design Approach

Refer to the Urban Design Framework attached as **Annexure K** for details regarding the design approach followed on the proposed Northern Extension Integrated Mixed-Income Human Settlement Development.

3.4.1 Approach to Open Space and Electrical Servitude

Open Spaces are designed and incorporated in the proposed development to be surveilled and safe. Open spaces are activated to include play facilities and designs incorporate the placement of buildings so that wherever possible, they overlook open spaces and electrical servitudes to allow for natural surveillance and "protection" of those areas. Open spaces are designed to be multifunctional and sports fields are associated with the riverine corridor.



Figure 26 - Design Approach to Open Spaces and Electrical Servitude

Some more examples of the design approach that could be taken on the development of parks and open spaces in the proposed development are illustrated in the images below:

Central Park








Hill Park

- Hill park is located on a slope greater than 25%
- Park should be activated with play equipment, bicycle pump track, pathways etc.



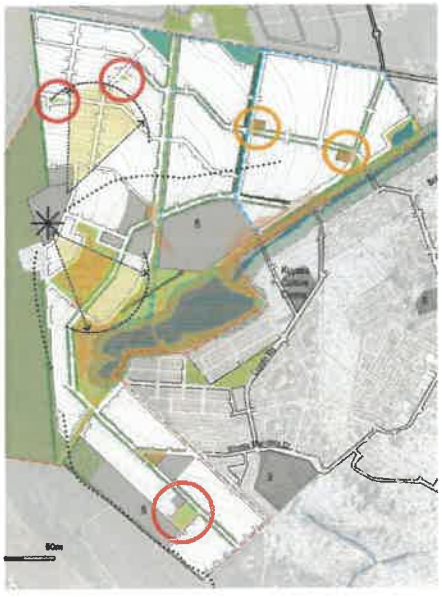




Neighbourhood Parks & Public Squares







3.4.2 Approach to Public Facilities

Public facilities are designed to be clustered, compact (reduced school property size), and shared. Where possible, public facilities should be designed to be landmark features and should be high in quality to create safe places for communities to come together.



Figure 27 - Design Approach to Public Facilities

3.4.3 Approach to Housing

A maximum flexibility block approach has been considered to allow for street blocks to be broken up in different ways to accommodate varying approaches to land use, building typology and density. This flexible block approach creates room to accommodate changing needs over time.

A variety of housing typologies and erf configurations have been considered to support flexibility in relation to market / income groups, financing options, density and mix of typologies. Depending on market conditions in the future, the block design can for instance accommodate apartments to be developed on some of the blocks if the individual residential stands are consolidated.

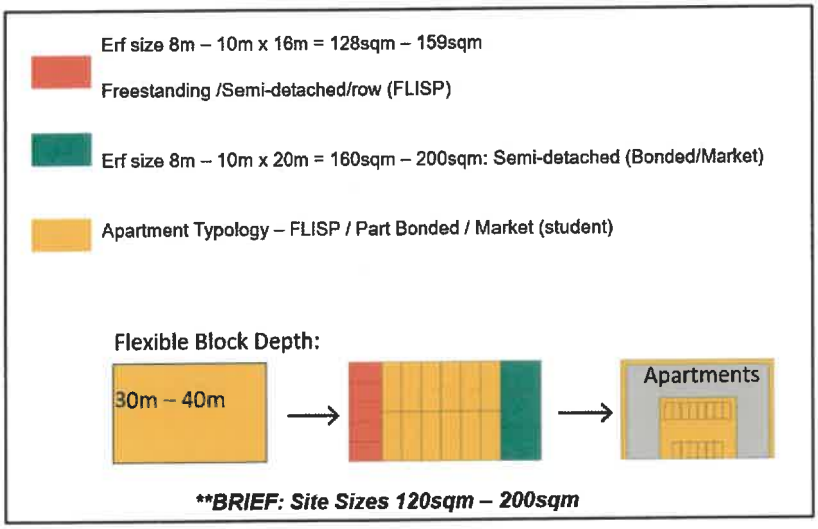


Figure 28 - Block typology.

3.4.3.1 Guidance from Adam Tas Corridor Precinct 10 Guidelines:

Although the application site does not directly fall within the precincts identified in the Adam Tas Corridor Development Guidelines, the site is adjacent to Precinct 10, and guidance has therefore been taken form the development guidelines contained in the Adam Tas Corridor Development Guidelines.

The intended character and function for Precinct 10 is described as follows in the document:

A gateway precinct at the northern entrance to Stellenbosch and the ATC. In general, together with the Droë Dyke Precinct, to contain a higher proportion of housing than other precincts, as well as mixed use retail and commercial activities. Some blocks to contain mostly housing. A focus of formal and informal recreational and sport activities.

From a heritage perspective, it is identified as Character Area 10, with its distinguishing heritage features relating to its function as a urban-rural transition and gateway (northern area).

The following design elements have been incorporated in the Northern Extension Integrated Mixed-Income Human Settlement Development design:

- A range of development typologies include semi-detached units, row houses and multi storey apartment blocks
- Apartment blocks should include private, internal, landscaped courtyards accommodating parking if necessary
- Building should range from 2 to 4 storeys. with the greatest height along the R304
- Range of funding mechanisms













PRECEDENT EXAMPLE: District 6, Cape Town

The Development Block designed to enable a range of typologies

(Drawing reference: Jacupa Architects and Urban designers)

3.4.4 Approach to Structuring Streets

The urban design framework for the proposed development makes provision for a primary "Y" Boulevard which is a 16m wide street defined by higher order building typologies.

A Hierarchy of streets is planned providing access and connection to all development parcels. Secondary (13m), and tertiary (10m) streets are planned with the lowest order residential streets with a 8m road reserve planned.

The two transport hubs that are planned are clustered with public facilities and open spaces, as illustrated below:

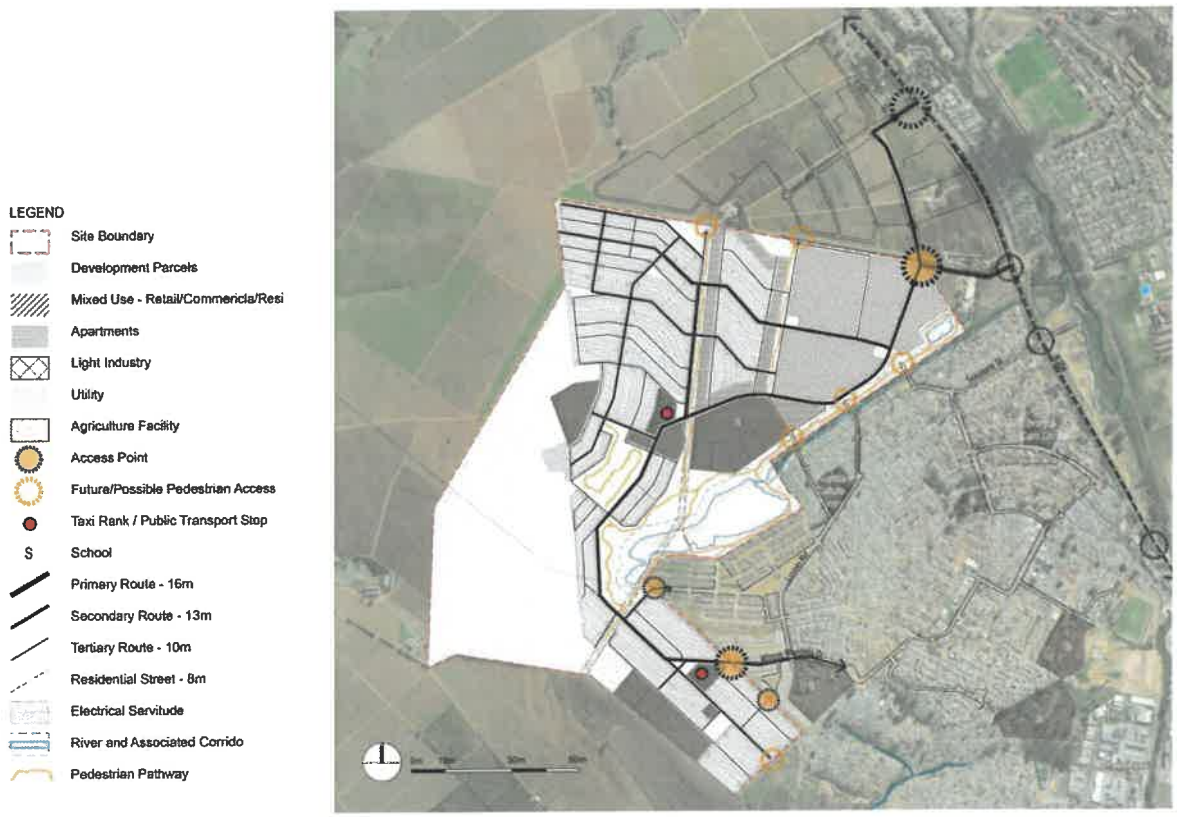


Figure 29 - Northern Extension Urban Design Framework – Movement & Access

Structuring routes 13m and 16m streets are associated with higher order movement opportunities, public transport, pedestrian and bicycle movement, Row house and apartment typologies:



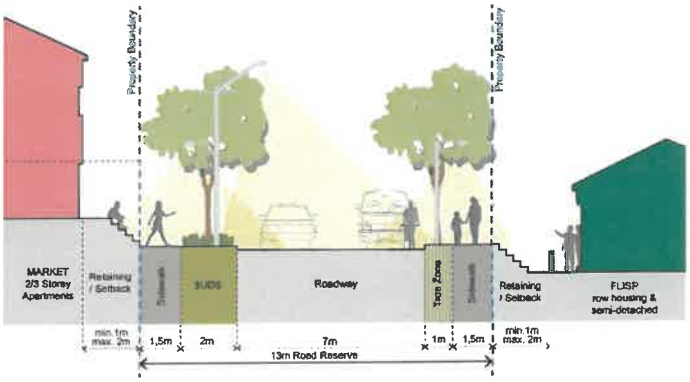


Figure 30 - 13m Road Reserve

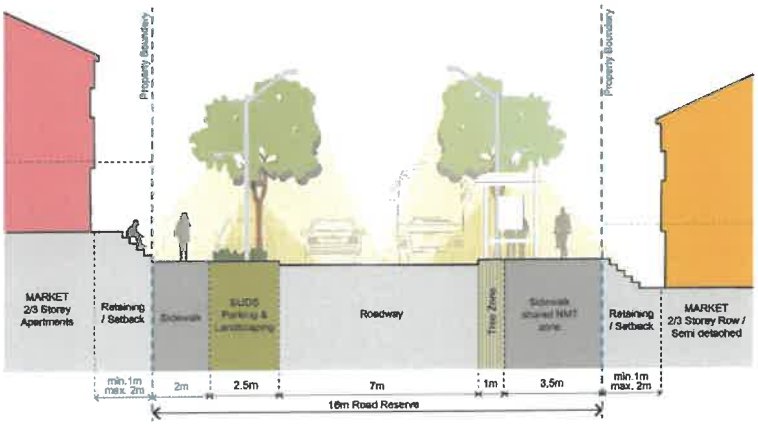


Figure 31 - 16m Road Reserve

The below site section illustrates the various uses, placement of buildings, landscaping and infrastructure etc. along Section FF of the proposed development:

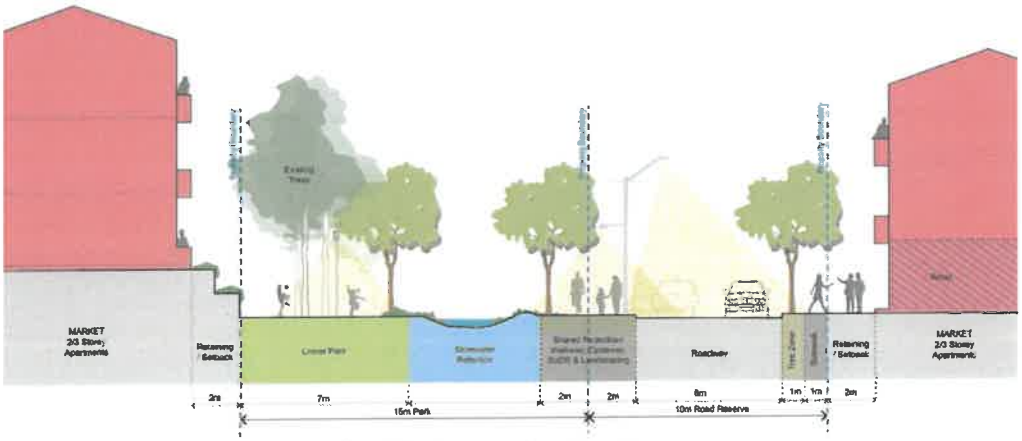


Figure 32 – Indicative Site Section FF - Structuring Streets



Figure 33 - Site Section FF

The design of the proposed development has responded to sloping topography of the site in that streets have been orientated with the contours and steep sloping areas (with a slope greater than 1 in 4) have been excluded from being developed as illustrated below:

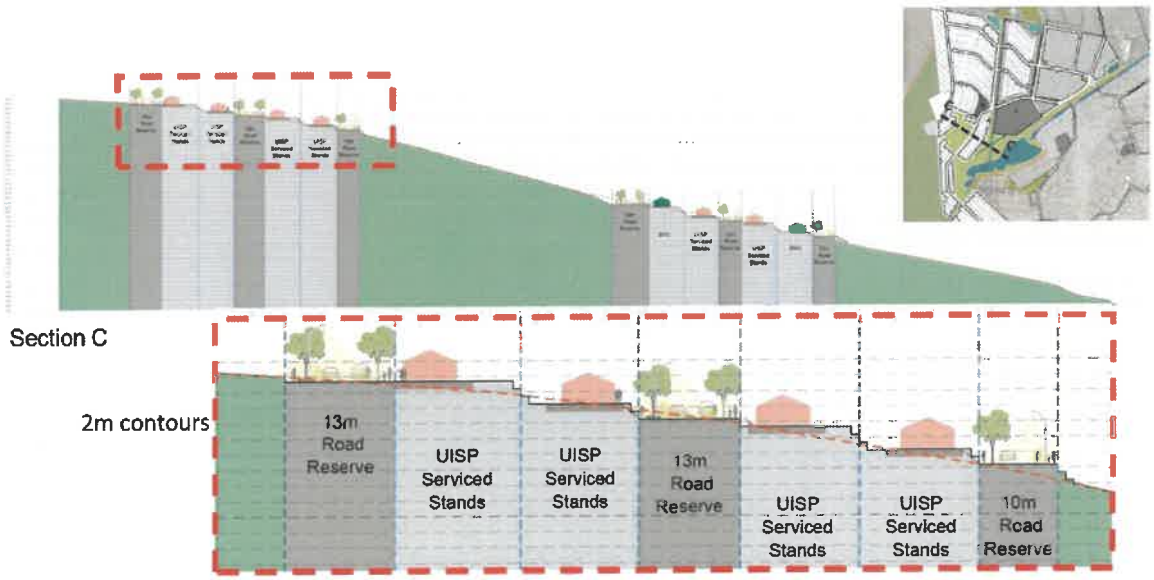


Figure 34 - Site Section CC

3.4.5 Approach to Neighbourhood Streets

Motivation for 8m Wide Shared Street

Streets often constitute a significant portion of developable land, sometimes accounting for up to 35% of the total land use of a development. They are frequently treated as utilitarian corridors in our urban landscape, almost always designed with the vehicle in mind. In developments with a residential nature, such as the Northern Extension, where people mostly move by foot, we suggest reducing the

minimum road width from 10m to 8m. This should only occur in areas with a residential focus, to create a better living and walking environment while maximising the site's development potential.

A 'shared street' is a residential street designed to eliminate the separations between walking, cycling, and vehicular movement, enhancing the street's liveability. While cars are permitted, they are considered "guests" and yield to other modes and activities. The shared surface design, typically a single surface with no level changes, disrupts the traditional hierarchy of mobility, naturally slowing down car movement, and allowing for a more efficient use of space.

In the South African context, creating safe, multifunctional spaces for children's recreation and play is crucial in housing layouts. By removing traditional distinctions between pedestrians and vehicles, the design encourages heightened awareness of surroundings, promoting physical safety. The concept of "eyes on the street", underscores the importance of natural surveillance. A liveable street design fosters increased safety by encouraging more people to be present and active, fostering a sense of community ownership and responsibility. This social connectivity can further contribute to safety, as people are more likely to look out for one another and report any suspicious activities.

In the **Northern Extension Integrated Mixed-Income Human Settlement Development** layout, there is a hierarchy of streets providing a range of street typologies and movement options. The higher-order street network facilitates thoroughfare of vehicular movement in standard roadways, while the strategic location of the shared-streets takes advantage of lower-order residential streets, primarily accessed by residents. Despite being lower-order streets, and narrower than the minimum Stellenbosch Municipal standard, these 8m wide streets still make provision for service vehicles.

In the Northern Extension, shared streets are associated with USIP stands (less formal residential zone). The less formal typology (USIP) is positioned adjacent to the shared street, as narrower streets demand less spatial definition, something that will only happen over time.

The inclusion of narrower 8m wide shared streets not only transforms the physical landscape but also encourages a shift in community dynamics. By reimagining streets as vibrant, shared spaces, we pave the way for safer, more inclusive environments. The integration of the 'eyes on the street' philosophy and the encouragement of active community participation not only enhances security but also fosters a sense of belonging.

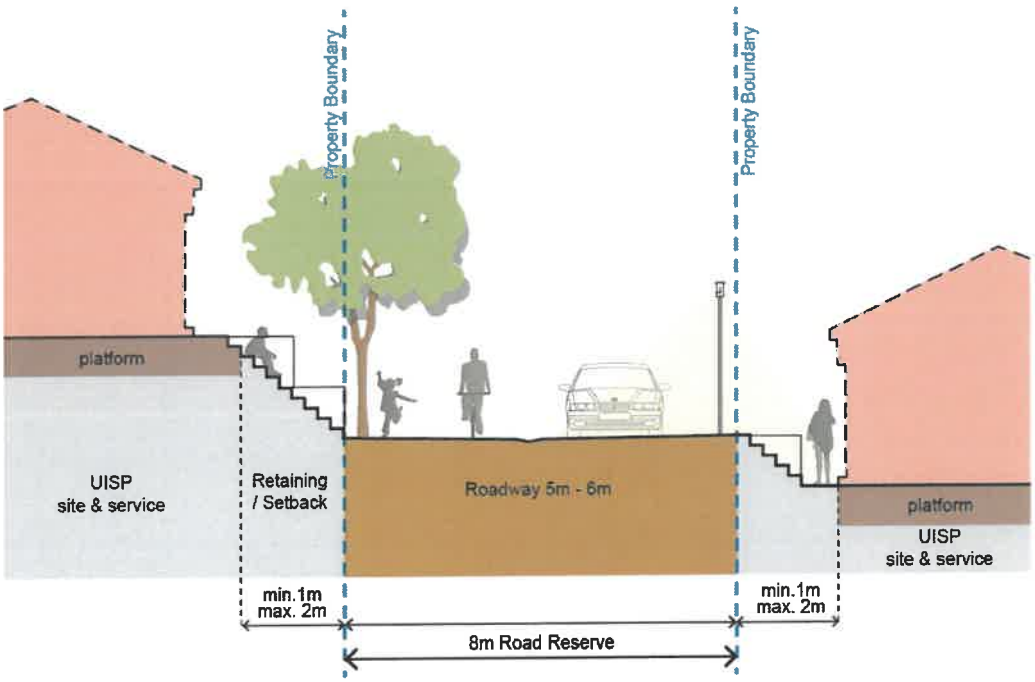


Figure 35: Indicative Street Section



Refer to the Urban Design Framework attached as **Annexure K**

4 APPLICATION PARTICULARS

The previous sections of this report has provided an overview of the site context and the various components of the site analysis undertaken to date, as well as an outline of the proposed development. Furthermore, previous sections of this report has detailed the potential impacts and the required approvals which will be needed for the legal implementation of the proposed development. However, in order to clarify the exact details of the application, this section will reiterate specifically what it is that is being applied for in this application.

Application is made for the consolidation, rezoning and subdivision of the following portions of the Farms 182 and 183 Stellenbosch in order to create an integrated mixed-income human settlement development:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

An application is hereby submitted for the following:

i. In terms of Section **15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

ii. In terms of Section **15(2)(a)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **rezoning** of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan (attached as **Annexure F**).

iii. In terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **subdivision** of the consolidated property in accordance with the attached Subdivision plan (attached as **Annexure F**), in order to give effect to the proposed land uses.

4.1 Proposed Consolidation

Application is made in terms of **Section 15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

CONSOLIDATION PLAN

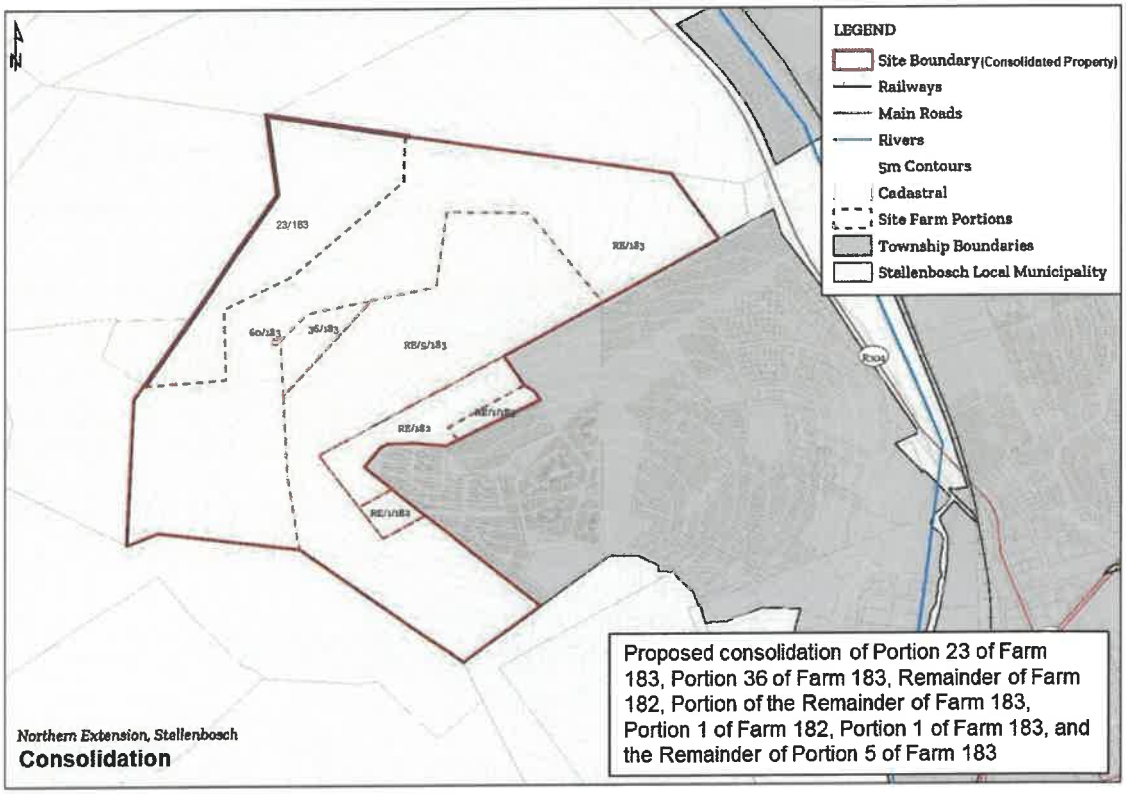


Figure 36 - Proposed Consolidation

Refer to the Consolidation Plan attached as **Annexure S**.

4.2 Proposed Rezoning

Application is made in terms of **Section 15(2)(a)** of the Stellenbosch Municipality Land Use Management By-laws, 2015 for the **rezoning** of the consolidated erf from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands

- 6 Community Zone stands
- Public Roads and Parking

See the subdivisional layout plan attached as **Annexure G** for detail.

All the standard development parameters of the Stellenbosch Municipality: Zoning Scheme By-Law, 2019 (Density, Coverage, Height, etc.) will be applicable to the proposed development. No deviations or departures are being applied for.

4.3 Proposed Subdivision

Application is made in terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the **subdivision** of the consolidated erf in accordance with the attached Subdivision plan (attached as **Annexure G**), in order to give effect to the proposed land uses.

4.4 Proposed land uses

The main objective was to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, for a mixed-income development, creating housing opportunities various income categories.

The proposed urban design framework of the Northern Extension Integrated Mixed-Income Human Settlement Development consists of the following projected land uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

The proposed layout plan the proposed subdivisional area into the mentioned land uses is shown in **Annexure G** attached.

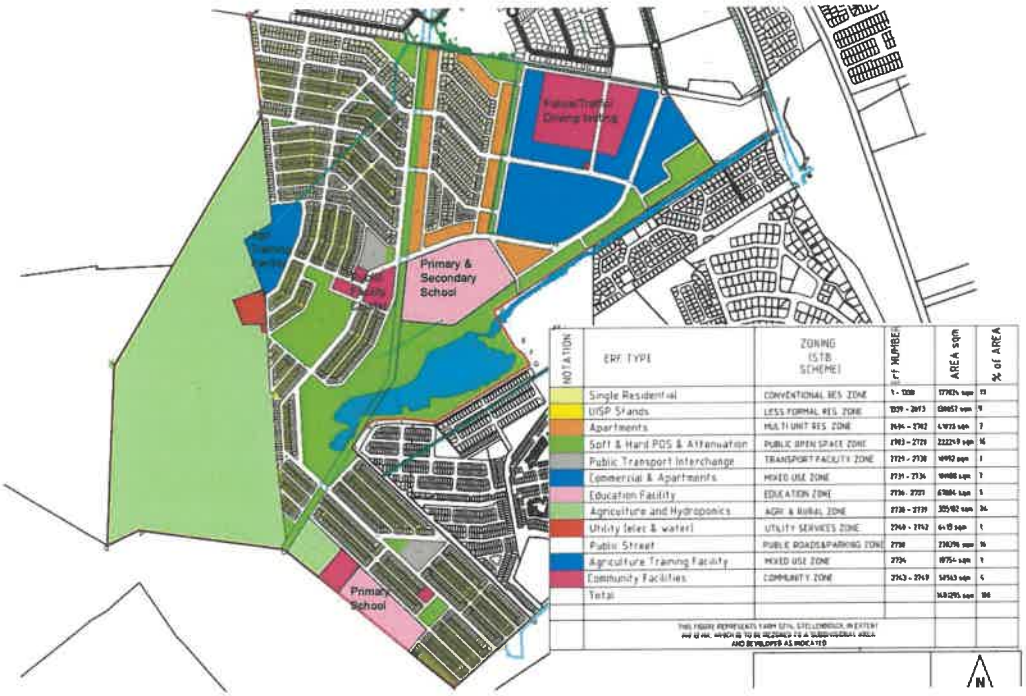


Figure 37 – Northern Extension Integrated Mixed-Income Human Settlement Development Subdivisional Layout Plan

There is a total of approximately 4500 planned residential opportunities across various typologies to cater for a wide range of income groups, as illustrated below:

Table 7 - Northern Extension Land Use and Yield

Northern Extension					
Land Use & Areas					
Zoning	**Description**	**Number of units**	**Area (sqm)**	**Area (ha)**	**% of area**
Conventional Residential Zone	Freestanding - GAP/FLISP/Subsidised	1,338	177024	17.70	12.63%
Less Formal Residential Zone	UISP - Serviced sites	1,354	130657	13.07	9%
Multi Unit Residential Zone	Apartments (Subsidised, priv rental, social housing)	739	41073	4.11	3%
Public Open Space Zone	Hard and soft public open spaces and attenuation ponds	na	222249	22.22	16%
Transport Facility Zone	Public Transport Interchange	na	10992	1.10	1%
Mixed Use Zone	Mixed Use - Commercial & Apartments	1,032	101188	10.12	7%
Education Zone	Education Facility (2 primary, 1 secondary)	na	67804	6.78	5%
Agricultural and Rural Zone	Hydroponics & agriculture	na	335182	33.52	24%
Utility Services Zone	Water and electricity	na	6413	0.64	0%
Public Roads and Parking Zone	Streets	na	230396	23.04	16%
Mixed Use Zone	Agricultural training facility	na	19754	1.98	1%
Community Zone	Worship, post office, clinic, hall, ICT, police, driving centre	na	58563	5.86	4%
TOTAL		**4463**	1401295	140.13	100%

Land Use Distribution

Land use includes:

- Range of housing typologies (+-/4700 units)
- Vertical mixed-use development (commercial, retail, resi)
- Public transport nodes
- Range of open space typologies
- Range of public facilities including:
  - 2 primary schools
  - 1 secondary school
  - 17 small creches/day cares
  - 5 Place of workshop
  - 1 post office
  - 1 community hall
  - 1 Primary health clinic
  - 1 ICT access point

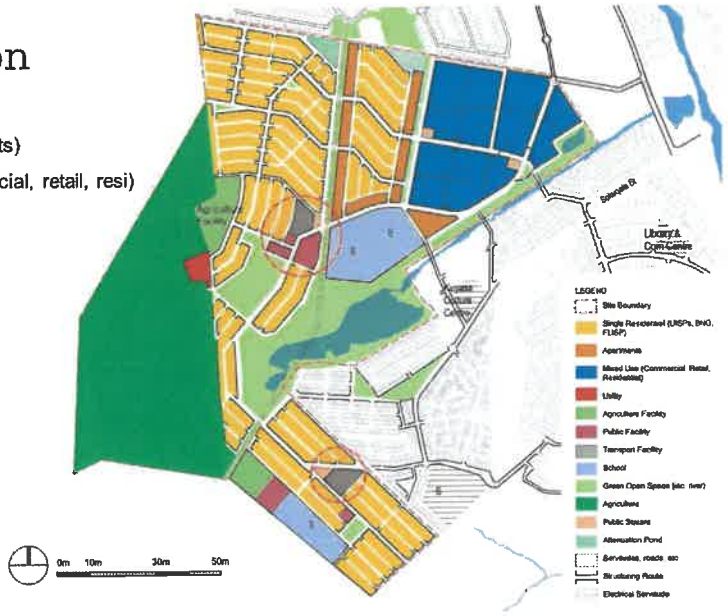


Figure 38 - Northern Extension Land Use Distribution

Some examples of the various land uses incorporated in the layout plan are provided in the images below. Refer to the Urban Design Framework attached as **Annexure K** for more details:

Design Elements

Agriculture Facilities



Figure 39 - Proposed Agricultural Facilities

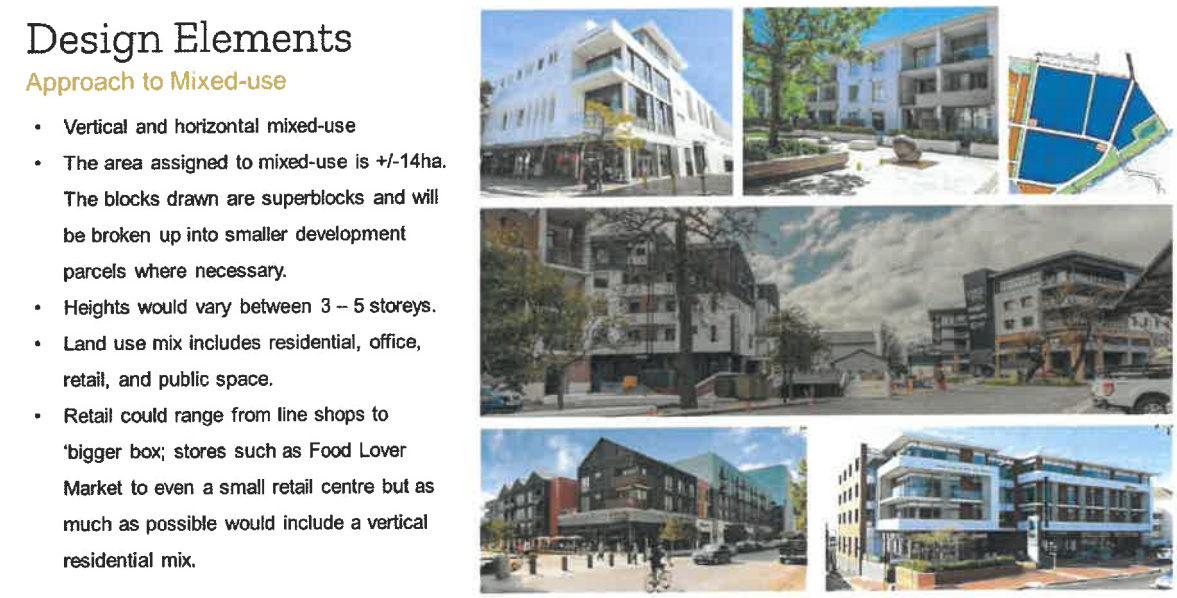


Figure 40 - Proposed Mix Use Development

Refer to the Urban Design Framework attached as **Annexure K**.

4.5 Proposed Phasing

The size and magnitude of the proposed development will require a phased approach to be taken in the implementation of the project. It is therefore envisioned that the development implementation (construction) will be executed in a number of phases that will be informed by market demand, as well as the availability of funding and infrastructure for the development of a specific. The Northern Extension Development has been divided into a number of phases as described in the section below that has provisionally been developed which will be further refined as the detailed design processes continue.

The sequence of how specific phases will be implemented will also be dependant on a number of factors such as the demand for a specific land use at any given time as well as the availability of funding. Due to the numerous sources of funding that will be accessed by the proposed development, some of the phases could also be implemented in parallel.

The provisional phasing plan is illustrated below:

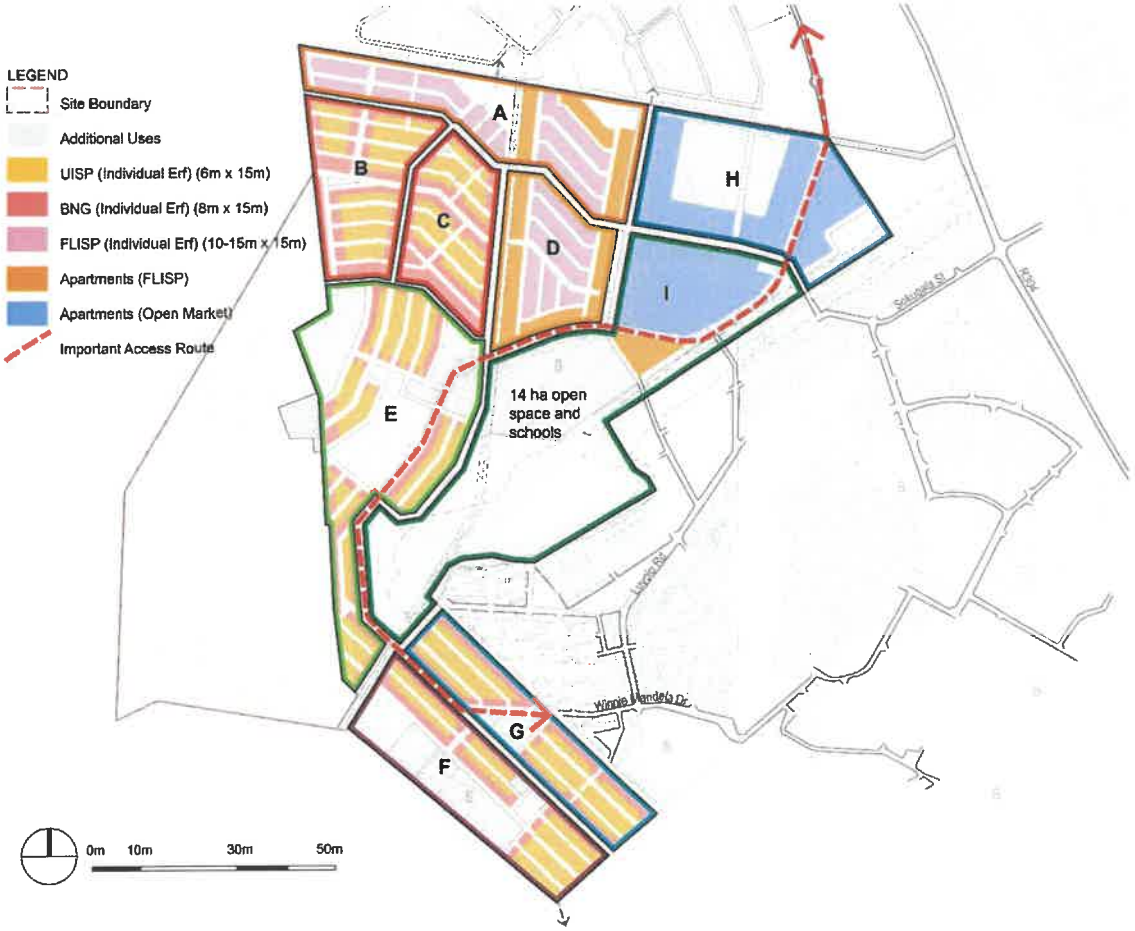


Figure 41 - Provisional Phasing Plan

The estimated number of units that could be developed per phase is provided in the table below:

Table 8 - Estimated number of residential units per phase

Precinct	Approximate Total Units per phase	Typology Mix
A	560	FLISP and apartments
B	500	BNG and UISP
C	**430**	**BNG (130) and UISP (300)**
D	460	FLISP and apartments
E	490	BNG, UISP, public facilities and space
F	440	BNG, UISP, primary school & hydroponics centre
G	450	BNG, UISP, taxi rank
H	470	Mixed-use, driver testing centre and police station
I	660	Mixed-use, apartments, open space, schools x2
TOTAL	4460	

It is envisaged that Phase C could potentially be developed as the first phase to create the fist subsidised housing opportunities, and the UISP serviced sites could as a first step be developed as a TRA facility to accommodate a number of households that can be provided with shared services as an interim step.

The infrastructure requirements will also need to be carefully considered when planning the implementation of a specific phase.

See the Provisional Phasing Plan attached as **Annexure L**.

5 MOTIVATION

5.1 Land development principles

The proposal is consistent with existing Policy and Planning Frameworks and adheres to the principles of the Spatial Planning and Land Use Management Act, 2015 (Act No 16 of 2013). (SPLUMA). This application complies with the following General Principles for development as stated in Chapter 2 of the Spatial Planning and Land Use Management Act, 2013 (Act No 16 of 2013):

- Section 7 (b): The principle of spatial sustainability, whereby spatial planning and land use management systems must:
  - (vi) promote land development in locations that are sustainable and limit urban sprawl; and
  - (vii) result in communities that are viable;

- Section 7 (c): The principle of efficiency whereby:
  - land development optimises the use of existing resources and infrastructure.

The proposal also sets out to meet the land development principles referred to in Section 42 of the Spatial Planning and Land Use Management Act (Act 16 of 2013) (SPLUMA) and Chapter VI of the Western Cape Land Use Planning Act (Act 3 of 2014) (LUPA):

- Spatial justice
- Spatial sustainability
- Efficiency
- Spatial resilience
- Good administration

5.1.1 Spatial justice

The principle of spatial justice relates to redressing the past development imbalances to improve access to, and use, of land. The goal of the proposed integrated housing development in the proposed Northern Extension Development is to provide a range of subsidised and affordable housing opportunities, in a well located neighbourhood close to community facilities and economic opportunities. The provision of housing opportunities and services in the area is intended to service people of different races, cultural backgrounds, religions, etc. to bring about community and social cohesion.

5.1.2 Spatial sustainability

The principle of spatial sustainability relates to land use management systems that promote land development that is within the fiscal, institutional and administrative means of South Africa, must protect prime and unique agricultural land, and must comply with environmental laws and limit urban sprawl. The land identified for the proposed development is ideally located within the urban edge of the municipality and in an area that is earmarked for urban expansion according to the Spatial Development Framework, in between already established neighbourhoods. This contributes to both spatial sustainability and spatial resilience.

5.1.3 Efficiency

The principle of efficiency relates to the optimal use of existing resources and infrastructure. The development of the study area will capitalise on the existing infrastructure. Such infrastructure includes the existing movement networks and bulk service connections. The development will also yield the least impact on the environmental resources of the area, and protect the open areas from being further invaded and degraded.

5.1.4 Spatial resilience

The principle of spatial resilience relates to the flexibility of spatial policies and land use management systems. The design of the development incorporates a maximum flexibility block approach to allow for street blocks to be broken up in different ways to accommodate varying approaches to land use, building typology and density. This flexible block approach creates room to accommodate changing needs over time.

5.1.5 Good administration

The principle of good governance relates to all spheres of government ensuring an integrated approach to land use and land development. The proposed development supports the principle of good administration as it is aligned to the overall strategic spatial development of the municipal area as indicated in the Stellenbosch Municipality Spatial Development Framework and the Integrated Development Plan.

5.2 Need and Desirability

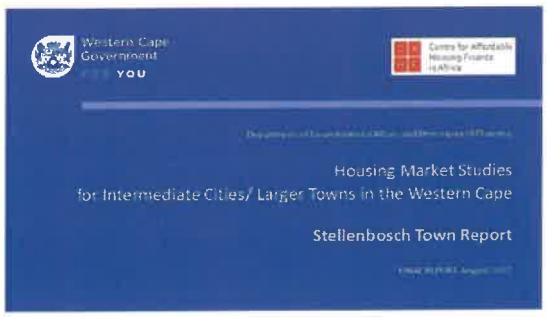
5.2.1 Need

According to the Stellenbosch Municipality Integrated Development Plan (IDP) 2016/2017, "Stellenbosch faces a shortage of around ±20 000 housing units".

In accordance with the housing need, Stellenbosch Municipality has identified the subject site for residential purposes.

A Northern Extension Draft Feasibility Report has already been completed in January 2017 where a clear demand for housing was shown and a need for the project established. The aim of the study was to conduct a due diligence assessment to establish whether it is suitable for the expansion of a mixed-use development to the north of Kayamandi. The key focus of the proposed development would be to provide different housing typologies (including flats) in the 'BNG, Lower-Gap, Gap and Upper-Gap' segments.

Housing Demand in Stellenbosch:



In a housing market study conducted by the Centre for Affordable Housing Finance in Africa, for the Western Cape Department of Environmental Affairs and Development Planning, it is stated that an estimated 25% of residents live in the 29 informal settlements in the municipality.

The data indicates that housing need is concentrated in particular areas of the town. Cloetesville, Idas Valley, Khayamandi, and Jamestown make up nearly half of the municipality's total BNG housing need. Cloetesville (84%), and Idas Valley (88%) have the highest proportion of applicants on the waiting list for 10 years or more.

Many people on the housing demand database have been waiting for housing assistance for years. According to the 2019 SDF, 74% of the applicants (for the entire municipality) had been on the waiting list for longer than 10 years, 24% of which are currently on the waiting list for more than 20 years.

The presence of informal settlements and backyard dwellings in Stellenbosch town, clearly demonstrates a housing demand, indicating the number of households unable to find alternate, adequate accommodation which is affordable. The location of these dwellings may indicate areas of opportunity for settlements, or may express preferences for location with respect to formal or informal employment.

As of November 2021, the number of households from Stellenbosch town on the waiting list was 11 396, of which 47% stay in Khayamandi.

Housing need is concentrated in particular areas of the town: Cloetesville, Idas Valley, Khayamandi, Jamestown, and central Stellenbosch. In addition to unmet housing needs for students reliant on financial aid, there is lack of housing for young families and young people starting their career. Technopark employees, university staff, teachers at local schools, lecturers, support staff at university are also another key market which is not sufficiently met.

The unmet housing need is most pronounced in the lowest segment, a large number of households with a monthly income below R7 300—approximately 17 900 households, or 51% of the total. However there are only 1 115 formal houses on the deeds registry valued below R300 000. This would suggest an unmet need for affordable formal housing: many of these households may currently be renting, and/or staying in informal settlements or backyard dwellings which are not reflected in the deeds data.

Similarly, in the income segments between R7 300/month and R22 200/month, there are far more households (approximately 8 500) than there are houses in the corresponding market segment which would be affordable to households with this income (around 2 800). One possibility may be that a number of these households are renting, or staying in informal dwellings. The data does suggest there is an undersupply of houses valued in the affordable and conventional market segments.

A clear need for a mixed use integrated development that will cater for a range of income categories and residential typologies is therefore clearly demonstrated. There is accordingly an urgent need for the Property to be developed so as to create an integrated residential environment, providing for a range of housing opportunities and choice by catering for a mix of types of housing.

Th e Stellenbosch Municipality's IDP an d Spatial Development Framework (SDF) have also identified the need for housing opportunities for the Kayamandi area. Kayamandi is currently subjected to pressure for outward expansion, mainly from new residents moving to Stellenbosch from elsewhere. This migration of people causes increased pressure on municipal services such as water, sanitation and electricity supply.

The proposed Northern Extension Integrated Mixed-Income Human Settlement Development will assist in providing much needed affordable housing opportunities in a location that is close to community facilities and economic opportunities.

5.2.2 Desirability

The site of development, the Northern Extension of Stellenbosch, is situated north of Khayamandi, adjacent to Cloetesville and Welgevonden Estate, within the Stellenbosch Municipal area. The site is located on the western side of the R304 (main arterial from the North) to Stellenbosch.

The proposed development will provide much needed housing to the local community, in an infill development area in between existing developments and thereby integrating with existing infrastructure. The community will as a result realize an increased sense of security and human well-being as the erf currently poses a threat of being invaded.

The proposed development will contribute to the character of the area and will create much needed housing opportunities that are close to community facilities and economic opportunities. The proposed development will promote safer urban environments. Generally, the utilisation of vacant and otherwise wasted space contributes to a safer residential environment. This is achieved through the elimination of loitering space for antisocial behaviour as well as the increase in surveillance brought about by additional frontages onto open space by residential infill.

The proposed development will further bring about an increase in the tax rate base for the Local Authority as well as reduced operational costs for maintenance of under-utilised land. The variation of erf sizes provided in the layout adds flexibility to the housing typologies that can be accommodated on the site, thereby catering for a range of different income groups.

The proposed development embraces economic development by creating an environment that is conducive to and encourages economic development is vital for the creation of a quality urban settlement. The proposed Public spaces are integrated with community facilities and services, thereby creating linkages of facilities adjacent to public open spaces to allow for resource sharing between activities, thereby promoting 'place-making'.

Public spaces will be created which will act as focal points for social interaction that are responsive, attractive and comfortable to the community. Therefore, a key objective is the creation of dignified public space precincts. Public Spaces are also as far as possible linked to one another via landscaped priority routes within the development, thus creating a pleasant environment and enabling local end users to easily navigate between public spaces.

The proposed Northern Extension Integrated Mixed-Income Human Settlement Development aims to achieve a feasible inclusionary development approach that provides for the integration of:

- Quality sustainable infrastructure according to municipal standards;
- mixed income residential environment;
- rich choice of housing modalities;
- various tenure options;
- quality built environment;
- economic opportunities;
- provision of full range of transport and social facilities; and
- delivered in one seamless development process.

5.3 Strategic National, Provincial and Local Planning Frameworks and Policies

The proposed housing development is aligned with the strategic local and provincial plans. This section discusses the plans that are applicable to this application and their relation to the proposed development. This section will explore various policy and strategic framework documents that are

relevant to the site and study area. This is critical in order to ensure that the strategies and proposals within the Northern Extension are aligned to Stellenbosch Municipality's overall strategic vision.

Various policies were reviewed to determine if there are any legislation, management strategies or frameworks pertaining to the site or the study area that need to be considered in the development of the Northern Extension. The relevant Acts, policies, frameworks and documents on the National-, Provincial-, District- and Local levels are discussed in the following sections.

There are several policies from the national- to local level impact future development. It is essential to ensure alignment between policies to ensure buy-in and political support at all spheres of Government. Both the Stellenbosch SDF and IDP indicate the need for housing in the form of integrated development. The vision of the Northern Extension project, therefore, supports the goals and objectives of these documents.

Stellenbosch experienced a relatively high population growth rate of 2.73% between 2016 and 2020, placing significant pressure on the limited housing stock. Although the Municipality can boast with a relatively high education force, the employment figures are relatively low, with less than 40% of the workforce being employed. Households, therefore, have a low income, and nearly 80% of households are classified as low-income earners, earning less than R3,200 per month.

5.3.1 National policy context

5.3.1.1 The National Development Plan 2030

The National Development Plan (NDP) 2030 was developed by the National Planning Commission (NPC) in the office of the President in 2012. The objectives stated within the NDP include the need for a strong and efficient planning system, integrated across the various spheres of government. The NDP sets out an integrated strategy for accelerating growth, eliminating poverty and reducing inequality, by 2030. It further provides a new focus for planning authorities to embrace several other policies of the government, developed since 1994. Accordingly, the NDP places spatial transformation as the key challenge and objective within South Africa and is seen as the foundation, and enabler, of economic growth and development.

Chapter 8 of the NDP 2030 deals with "Transforming Human Settlements", where specific provision is made for spatial planning, and which includes issues of importance for the review of a Spatial Development Framework (SDF). The NDP states that "planning in South Africa will be guided by normative principles to create spaces that are liveable, equitable, sustainable, resilient and efficient, and support economic opportunities and social cohesion". These principles for spatial development are premised on spatial justice, spatial sustainability, spatial resilience, spatial quality and spatial efficiency. These principles are regulated in Chapter 2 of the Spatial Planning and Land Use Management Act, 2013 (SPLUMA): Development Principles Sections 7(a), (b), (c), (d) and (e).

Furthermore, the NDP proposes that: "These principles need to be incorporated into operational principles that provide guidance on":

- Integrating rural and urban areas;
- Accommodating social diversity within the built environment;
- Creating more dense settlements without raising the cost of land and housing for the poor;
- Integrating transportation systems and land use;
- Broadening the economic base of towns and cities through the supply of reliable infrastructure, suitable land and property, connectivity, skills and logistics;
- Building community involvement and partnerships;
- Supporting the development of vibrant, diverse, safe, green and valued places; and
- Ensuring that governance arrangements and leadership deliver equitable and efficient decision-making."

The spatial interventions, concepts and principles underpinning the formulation of the Broad Conceptual Urban Design Framework for the Northern Extension is therefore aligned with the NDP objectives ensuring spatial transformation, liveable and equitable urban spaces.

5.3.1.2 Spatial Planning and Land Use Management Act

The Spatial Planning and Land Use Management Act (2013) (SPLUMA) is a law assented to by the President of the Republic of South Africa on 5 August 2013. SPLUMA replaced the Development Facilitation Act (DFA) and the Land Use Planning Ordinance, 15 of 1986 (LUPO), and came into effect on 1 July 2015. 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 spatial planning and management related procedures and decision-making. Other objectives include addressing historical spatial imbalances and integrating the principles of sustainable development into land use and planning regulatory tools and legislative instruments. SPLUMA requires national, provincial and municipal spheres of government to prepare SDFs that establish a clear vision that must be developed through a thorough inventory analysis based on national spatial principles and local long-term development goals and plans. SPLUMA was developed to legislate a single and integrated planning system for South Africa. Furthermore, SPLUMA provides a framework for spatial planning and land use management and, as such, it can be used as a tool to aid the spatial transformation of our rural and urban areas.

As it pertains to urban planning, SPLUMA provides for two pillars of planning, namely spatial forward planning and land use management, or land development administration. SPLUMA provides general development principles in Chapter 2, subsection 7(a)-(e) of the Act, that applies to spatial planning and land use management, including:

- Spatial justice: Past spatial, and other, development imbalances must be redressed through improved access to, and use of, land.
- Spatial sustainability: Spatial planning and land-use management systems must promote land development that is within the fiscal, institutional and administrative means of South Africa, protect prime and unique agricultural land, comply with environmental laws and limit urban sprawl.
- Efficiency: Land development should optimise the use of existing resources and infrastructure, and decision-making procedures must be designed to minimise negative financial, social, economic or environmental impact.
- Spatial resilience: Flexibility in spatial plans, policies and land-use management systems are accommodated to ensure sustainable livelihoods in communities that are most likely to suffer the impacts of economic and environmental shocks.
- Good administration: All spheres of government are to ensure an integrated approach to land-use and land development, that is guided by spatial planning and land-use management systems. All governmental departments are to provide sector inputs, comply with any other requirements and follow a transparent public process.



Figure 42: SPLUMA principles

Sustainable principles, regulations and practices are incorporated in the proposed development plans for the Northern Extension. The spatial interventions conform to these normative principles to ensure sustainable development and the promotion of natural, human, social and physical capital within Stellenbosch.

5.3.1.3 National Environmental Management Act

The National Environmental Management Act (Act.107 of 1998) (NEMA) provides for cooperative environmental governance by establishing principles for decision-making on matters affecting the environment. It also provides for certain aspects of administration and environmental management law enforcement to be undertaken by institutions that can promote cooperative governance and procedures for co-ordinating environmental functions exercised by organs of government.

NEMA is crucial in matters of environmental sustainability, resilience to climate change and the sustainable use of natural resources, as these are key to the current and future socio-economic well-being of residents within a municipal area. To this end, it is crucial that NEMA principles, in conjunction with the development principles set out in SPLUMA, are applied. Both NEMA and SPLUMA provide for an integrated and coordinated approach towards managing land use and development processes. This approach is based on co-operative governance and foresees the utilisation of spatial planning and environmental management instruments, such as SDFs and EMFs, to align the requirements of allowing development, while ensuring that biodiversity, as well as other sensitive natural elements, are protected.

The NEMA principles are considered and a spatial strategy that is environmentally sustainable, and which creates a balance between development and the protection of natural resources are presented.

5.3.1.4 National Heritage Resources Act

In terms of the National Heritage Resources Act (Act 29 of 1999) (NHRA), Section 30(5), it is a legal requirement for local authorities to compile an inventory of heritage resources within their areas of jurisdiction: "At the time of the compilation, or revision, of a town planning scheme or spatial development plan, or at any other time of its choosing…". It also requires that the planning authority submit the inventory to the relevant provincial heritage authority "which shall list in the heritage register" those heritage resources that fulfil certain heritage criteria, as stated in the Act.

When read in conjunction with Section 34 of the NHRA, this includes the identification, mapping and grading of structures older than 60 years. A consequence of Section 34 of the NHRA, is that approval for demolitions and alterations to buildings older than 60 years, currently falls within the jurisdiction of Heritage Western Cape (HWC), and not the local authority. This will remain the case until a local authority obtains competency from HWC to fulfil these functions. Significantly, the NHRA is structured to encourage decision-making on the management of heritage resources to be devolved to a local level, i.e. "where such resources are deemed to be of local significance." (Western Cape Government, 2013).

With regards to the National Heritage Resources Act (NHRA), Act 29 of 1999, certain activities may not be initiated without any prior approval/consent from the competent authority, which in this case would be Heritage Western Cape (HWC), if they have a potential to impact on the heritage or cultural features (structures older than 60 years, landscapes and natural features of cultural significance, geological sites of scientific or cultural importance, archaeological and palaeontological sites, graves and burial grounds, sites of significance relating to slavery or movable objects) considered to be a national estate and need to be preserved or protected. Section 38 (1) of the NHRA provides a list of the activities which should be authorised by Heritage Western Cape (HWC) and is quoted below:

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-

(a) the construction of a road, wall, powerline, pipeline, canal or other similar forms of linear development or barrier exceeding 300m in length;

(c) any development or other activity which will change the character of a site—

(i) exceeding 5,000m2 in extent; or

(ii) involving three or more existing erven or subdivisions thereof; or

(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) the costs of which will exceed a sum set in terms of regulations by South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority;

(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority.

The development of the Northern Extension site is therefore designed in such a way as to protect heritage areas, heritage resources and areas of cultural value. A comprehensive heritage impact assessment was completed and guided the development plan of the proposed development.

5.3.1.5 Integrated Urban Development Framework

The Integrated Urban Development Framework (IUDF) is the government's policy position, coordinated by the Department of Co-operative Governance and Traditional Affairs (COGTA), to guide the future growth and management of urban areas. The IUDF responds to the post-2015 Sustainable Development Goals (SDGs), particularly Goal 11, which focuses on making cities and human settlements inclusive, safe, resilient and sustainable.

An important outcome of the IUDF is that of spatial transformation. The policy levers that have been identified are crucial for maximising the potential of urban areas, by integrating and aligning investments in a way that improves the urban form. The IUDF adopted a Transport-Oriented Development (TOD) approach to urban design, where all development policies promote higher-density urban development along mass transit corridors. This approach should promote investment in human

settlements and other key economic infrastructure, further enabling mobility and accessibility to social and economic opportunities.

To reach its vision, the IUDF identifies four strategic goals (defined below) which will aid in achieving the transformative vision of restructured urban spaces, and compact, connected cities and towns:

- Spatial integration: To forge new spatial forms in a 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.
- Governance: To enhance the capacity of the state and its citizens to work together to achieve spatial and social integration.

The range of public facilities proposed in the development will ensure that the Stellenbosch Municipality will expand facilities to be more accessible and offer improved services. There is an effective clustering of public facilities within each urban centre which will enable user convenience and efficient management. The proposed development will contribute to providing an inclusive, safe, resilient and sustainable human settlement, and will promote collaboration between local government and citizens and integrated development.

5.3.1.6 National Water Act

The National Water Act (NWA), Act 36 of 1998, aims to regulate the use of water and/or activities that may potentially impact water resources through the categorisation of water use activities as described in Section 21 of the said Act:

(a) Taking water from a water resource;

(b) Storing water;

(c) Impeding or diverting the flow of water in a watercourse;

(d) Engaging in a stream flow reduction activity contemplated in section 36;

(e) Engaging in a controlled activity identified as such in section 37(1) or declared under section 38(1);

(f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduits;

(g) Disposing of waste in a manner that may detrimentally affect a water resource;

(h) Disposing of in any manner of water which contains waste from, or which has been heated in any industrial or power generation process;

(i) Altering the bed, banks, course or characteristics of a watercourse;

(j) Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or the safety of people; and

(k) Using water for recreational purposes.

The provision of the National Water Act (NWA), Act 36 of 1998 will be complied with as part of the development rights applications for the proposed development.

5.3.1.7 Comprehensive plan for the development of sustainable human settlements (Breaking New Ground)

The Comprehensive Plan for the Development of Sustainable Human Settlements, alternatively referred to as "Breaking New Ground" (BNG) (August 2004), provides detailed information on the programmes commissioned by the National Department of Human Settlements. This plan is fundamentally about the need to move away from a housing-only approach, to a more holistic development of human settlements, including the provision of social and economic infrastructure, as well as to promote the achievement of a non-racial, integrated society through the development of sustainable human settlements and quality housing. This program aims to utilise housing delivery as a mechanism for the development of sustainable human settlements, in support of spatial restructuring. It moves beyond the provision of basic shelter, towards achieving the broader vision of integrated, sustainable and economically generative human settlement systems, at both local and regional scales. The following are fundamental points and principles of this new approach:

- Progressive informal settlement eradication;
- Promoting densification and integration in urban centres;
- Enhancing spatial planning in both urban and rural contexts;
- Enhancing the quality and location of new housing projects;
- Supporting urban renewal programmes; and
- Developing social and economic infrastructure.

BNG moves away from the current singular focus of housing delivery (numbers), towards more responsive mechanisms that address the multi-dimensional needs of sustainable human settlements. The proposed Northern Extension Integrated Mixed-Income Human Settlement Development is fully aligned with the principles of the Breaking New Ground policy.

5.3.2 Provincial policy context

5.3.2.1 Western Cape Provincial Spatial Development Framework

The Provincial Spatial Development Framework (PSDF) provides a shared spatial development vision for both the public and private sectors and serves as the guide to all sectoral considerations concerning space and place in the Western Cape. The PSDF serves to guide the location and form of

public investment and seeks to influence other investment decisions, by establishing a coherent and logical framework for spatial investment. The PSDF furthermore provides the spatial development policy framework through which the various provincial strategic goals will drive economic growth, improve natural resource management and resource use efficiencies, and develop more sustainable and integrated settlements.

The Provincial spatial agenda can be summarised as follows:

- Growing the Western Cape economy, in partnership with the private sector, non-governmental and community-based organisations;
- Using infrastructure investment as the primary lever to bring about the required urban and rural spatial transitions; and
- Improving oversight of the sustainable use of the Western Cape's spatial assets.

The PSDF includes four spatial themes, namely resources, space economy, settlement and spatial governance. The policies and strategies that flow from these themes focus on strategic investment in the space economy, settlement restructuring and the protection of the Province's natural and cultural resource base.

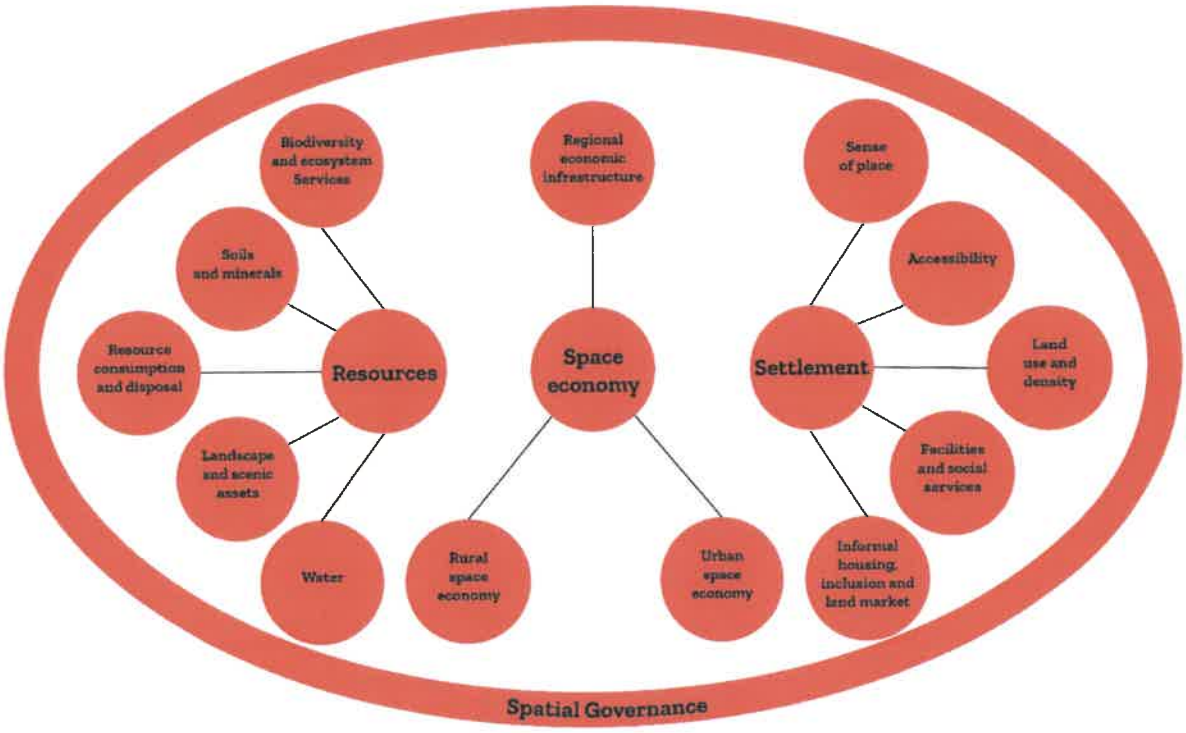


Figure 43: PSDF themes

The PSDF is an important spatial planning and land use management tool. It graphically portrays the Western Cape at a provincial level. The spatial planning principles and strategies underpinning the development of the Northern Extension aligns with the PSDF.

5.3.2.2 Western Cape Land Use Planning Act

The purpose of the Western Cape Land Use Planning Act (Act 3 of 14) (LUPA) is to consolidate legislation in the Western Cape Province that relates to spatial planning and to coordinate public

investment. It is strongly aligned with SPLUMA and governs spatial planning and land use management in the Western Cape.

5.3.2.3 OneCape 2040

OneCape 2040 is a vision for the Western Cape which envisages a transition towards a more inclusive, integrated and resilient economic future for the Western Cape region: "A highly-skilled, innovation-driven, resource-efficient, connected, high opportunity and collaborative society". The spatial vision that OneCape 2040 foresees, is: "creating a resilient, inclusive and competitive Western Cape with higher rates of employment, producing growing incomes, greater equality and an improved quality of life". This vision seeks to set a common direction to guide planning and action and to promote a common commitment to, and accountability of sustained long-term progress. To this end, the six transitions have been identified, as summarised in Table 9.

Table 9: The role of local government in achieving the OneCape 2040 vision

Educated Cape	Every person will be appropriately educated for an opportunity. Recognised centres of ecological, creative, science and social innovation excellence.
Enterprising Cape	Anyone who wants to be economically active can work. The entrepreneurial destinations of choice.
Connecting Cape	Welcoming, inclusive and integrated communities. Global meeting place and connector.
Living Cape	Healthy, liveable, accessible, high opportunity neighbourhoods and towns. Ranked as one of the greatest places to live in the world.
Green Cape	Functioning ecosystems working for and with communities. Leader and innovator in Green Economy.
Leading Change	Collaboration. Innovation mechanisms. Supportive roles.

Source: Western Cape Government OneCape 2040 presentation

OneCape 2040 has a strong focus on inclusive, integration and the creation of job opportunities. The proposed Northern Extension development is therefore aligned with these principles to provide an integrated, mixed-use development that will stimulate job creation.

5.3.2.4 Western Cape Biodiversity Spatial Plan Handbook

The Western Cape Biodiversity Spatial Plan (WCBSP) (2017), developed by the Western Cape Department of Environmental Affairs and Development Planning, and the Western Cape Nature Conservation Board (CapeNature), was used as a biodiversity informant by the Stellenbosch Municipality.

As per this plan, biodiversity refers "to the variety of life on earth, including genes, species and ecosystems, and the ecological and evolutionary processes that allow these to persist over time". The plan highlights the importance of conserving biodiversity, as it is important, not only because of its essential value but also because it is the natural resource that enables human communities to build sustainable livelihoods and attain an adequate quality of life.

The handbook is a spatial tool and includes the Biodiversity Spatial Plan (BSP) Map of biodiversity priority areas.

It is written to enable users to proactively identify ecological opportunities and constraints and use them to manage and plan infrastructure development and land use appropriately. For this decision-making, the WCBSP provides up-to-date plans that identify Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs).

The BSP Map and guidelines should be used for development applications, proactive forward-planning (include SDFs), proactive conservation and restoration planning. It should not, however, replace on-site evaluations, or be used in isolation, and it is not a multi-sectoral planning tool.

The PSDF states that local SDFs should divide its landscape into Spatial Planning Categories (SPCs) "to reflect a vision of how the area should develop spatially, to ensure sustainability". The Precinct Plan should incorporate policies, management objectives and guidance for appropriate land use within each SPC. As such the proposed Northern is taking cognisance of the SPCs to protect any environmental sensitivities.

5.3.2.5 Western Cape Green Economy Strategic Framework

The Western Cape Green Economy Strategic Framework (WCGESF), also referred to as the "Green is Smart" Strategic Framework, positions the Western Cape as the leading green economic hub in Africa. The framework outlines the risks posed to the Province by climate change, as well as the economic opportunity presented by a paradigm shift in infrastructure provision. The framework centres around six strategic objectives that influences the development of the Northern Extension site, namely:

- Becoming the lowest-carbon Province;
- Increasing the use of low-carbon mobility;
- Developing a diversified, climate-resilient agricultural sector and expanded value chain;
- Becoming an emerging market leader in resilient, liveable and smart built environments;
- Encouraging a high growth of green industries and services; and
- Securing ecosystem infrastructure.

Alternative building technologies should be explored in the implementation of the Northern Extension Development and consider any mitigation measures as part of the project.

5.3.3 District policy context

5.3.3.1 Cape Winelands District Spatial Development Framework

The vision of the Cape Winelands District is described as "a Unified Cape Winelands of excellence for sustainable development". The SDF defines the spatial logic that should be applied to areas with growth potential to achieve the strategic vision. The greater Stellenbosch is one of these areas with great development and growth potential. The spatial logic is to:

- Capitalise on the knowledge economy;
- Consolidate investment in economically vibrant areas;
- Connect the regional economic infrastructure; and
- Clustering investment of economic infrastructure.

The SDF promotes growth that minimises impact on the environment, on the municipal urban edge and on the competition between different land uses. It also encourages the development of a conducive policy environment to facilitate land uses that strengthen economic growth sectors. The Northern Extension project will assist the Stellenbosch Municipality to achieve the spatial logic through a mixed-use development. The development of the Northern Extension site within the urban edge will minimise environmental impact.

5.3.3.2 Cape Winelands Integrated Development Plan

The vision for the Cape Winelands District Municipality is "a Unified Cape Winelands of excellence for sustainable development". The District aims to achieve this vision through various strategies, including the promotion and facilitation of investment the retainment of existing businesses, identifying new opportunities as well as attracting new investment into the area. The strategic objectives of the IDP are:

- Strategic Objective 1: Creating an environment and forging partnerships that ensure social and economic development of all communities, including the empowerment of the poor in the Cape Winelands District;
- Strategic Objective 2: Promoting sustainable infrastructure services and a transport system that fosters social and economic opportunities; and
- Strategic Objective 3: Providing effective and efficient financial and strategic support services to the Cape Winelands District Municipality.

The spatial strategies identified for the Northern Extension aligns with the Cape Winelands IDP to create enabling environments.

5.3.3.3 Cape Winelands Regional Socio-Economic Strategy

The Cape Winelands Regional Socio-Economic Strategy (CWDM RSES) provides various strategies aimed at promoting social and economic development within the district through collaboration with key stakeholders and communities through the strengthening of existing businesses to create employment opportunities while also supporting the establishment of new businesses.

The CWDM RSES is based on the following strategic goals:

- Goal 1: Working towards building safe, healthy, active and productive communities together;
- Goal 2: Growing and thriving entrepreneurship and innovation;
- Goal 3: Facilitating investment attraction, retention and opportunities;
- Goal 4: Environmental protection that promotes sustainable development and economic growth; and
- Goal 5: Promoting culture, diversity and vibrant places.

The following strategies form part of the CWDM RSES and they aim at achieving the above-mentioned strategic goals:

- Social Investment Strategy;
- The Local Economic Development Strategy;
- Investment Attraction, Retention and Opportunities Strategy;
- Rural Economic Development Strategy; and
- Tourism Sector Plan.

The proposed Northern Extension development will incorporate economic and social opportunities to create a sustainable environment for future generations.

5.3.3.4 Cape Winelands Rural Development Plan

The Rural Development Plan (RDP) has been formulated to improve the quality of life and economic well-being of people in the District, especially those in relatively isolated and sparsely populated areas. These areas are usually characterised by a large proportion of populations that live in impoverished conditions and underdeveloped areas. As such, the RDP aims to address these challenges and enhance the livelihoods of people, as well as integrate spatial, economic, social and environmental objectives. Moreover, the RDP will assist in identifying opportunities to promote sustainable development and create decent employment opportunities in rural areas. In light of this, the RDP focuses on the Cape Winelands District as a rural development node and seeks to unpack the need for a rural development plan in this region.

The proposed Northern Extension development incorporates a mix of economic and social opportunities to create an integrated and sustainable environment.

5.3.4 Municipal policy context

5.3.4.1 Stellenbosch SDF

The spatial development and management vision of the SDF is aligned to the Stellenbosch Municipality's of the "Valley of Opportunity and Innovation". To achieve the SDF vision, the concept for spatial development and management in Stellenbosch is based on the following key tenets:

- Maintain and grow our natural assets;
- Respect and grow our cultural heritage;
- Direct growth to areas of lesser natural and cultural significance as well as movement opportunity;
- Clarify and respect the different roles and functions of settlements;
- Clarify and respect the roles and functions of different elements of movement structure;
- Ensure balanced, sustainable communities; and
- Focus collective energy on critical lead projects.

The priority spatial development areas within the Stellenbosch Municipality are Stellenbosch town and Klapmuts. These developments include the Adam Tas Corridor that stretches from the Droë Dyke and the Old Sawmill sites in the west along Adam Tas Road and the railway line, to Kayamandi, the R304, and Cloetesville in the north. The development offers residential accommodation within the Stellenbosch town while protecting and enhancing the town as well as the surrounding nature and agricultural areas. The SDF also identifies Kayamandi as an area currently pressured for an outward expansion due to migration.

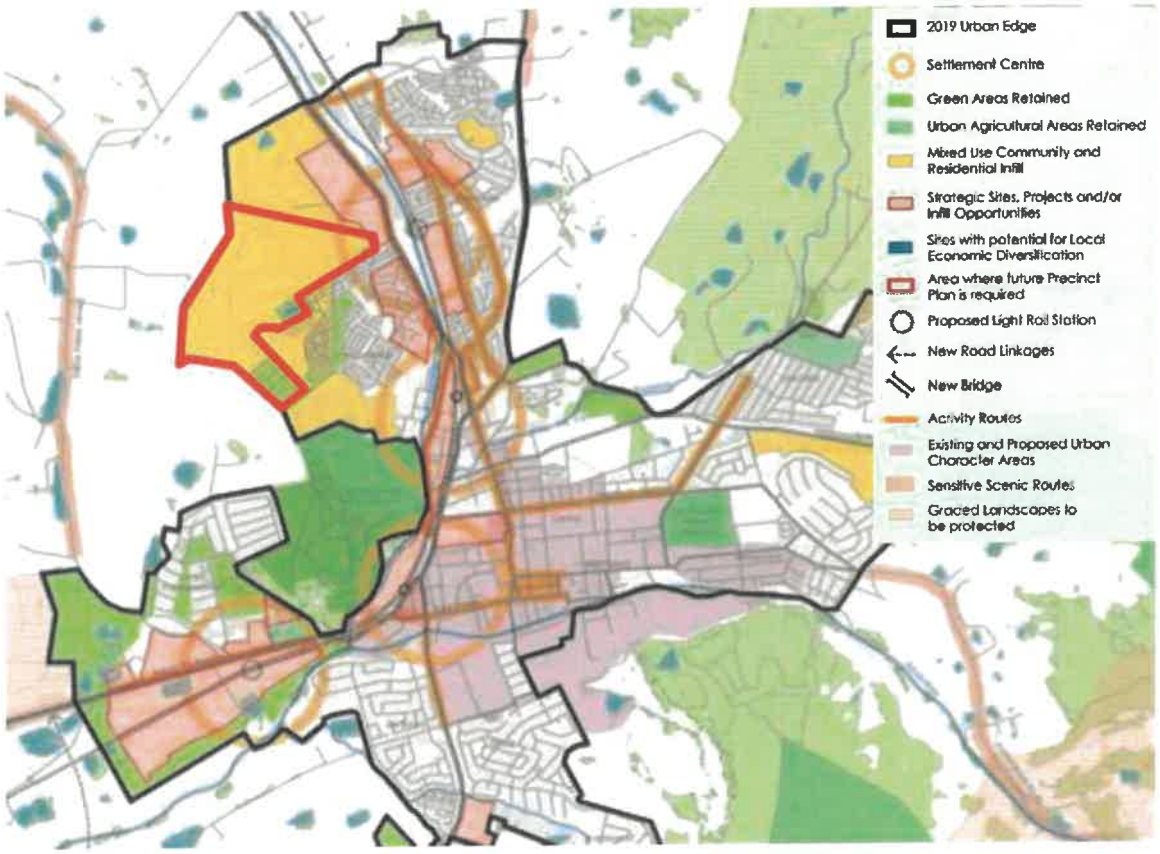


Figure 44 - The Northern Extension site is earmarked for Mixed Use Community and Residential infill in terms of the Stellenbosch MSDF 2019

The development of the Northern Extension site for residential opportunities including the required social amenities and public facilities will assist the municipality to achieve its developmental goals for the area.

5.3.4.2 Stellenbosch IDP

The greater Stellenbosch area strategic vision is described as "Valley of Opportunity and Innovation". The municipality aims to achieve this vision through "cost-effective services that will provide the most enabling environment for civil and corporate citizens". The IDP strategic focus areas for the 2019 review are as follows:

- Strategic Focus Area 1: Valley of Possibility;
- Strategic Focus Area 2: Green and Sustainable Valley;
- Strategic Focus Area 3: Safe Valley;
- Strategic Focus Area 4: Dignified Living; and
- Strategic Focus Area 5: Good Governance and Compliance.

The spatial strategies identified for the Northern Extension project aligns with the Stellenbosch IDP and will create vibrant and enabling environments.

5.3.4.3 Stellenbosch Local Economic Development strategy

The Local Economic Development (LED) Strategy and Action Plan aims at improving the municipality's economic future of the Stellenbosch Local Municipality to achieve their goals through encouraging innovation e.g. through strategy development for vacant land which ultimately provides an enabling and conducive environment for the local community.

Stellenbosch LED strategy and action plan through an integrated and cooperative approach by all identified key stakeholders and institutions. The strategy is guided by the following objectives:

- Increase the overall size of the economy to increase the money circulating in the local economy;
- Make it easier for small enterprises to succeed in competitive markets;
- Grow citizen net worth by making markets work better to increase property values;
- Build a public sector that values and supports its citizens who convert economic opportunity into reality, and creating jobs, wealth and increasing municipal revenue.

The proposed Northern Extension Development will provide an enabling and conducive environment for the local community.

5.3.4.4 Stellenbosch Integrated Human Settlements Plan

The Integrated Human Settlements Plan (IHSP) is aligned to the Urban Development Strategy which sets the growth and development path of the Stellenbosch Municipality. It also aims to achieve the IDP vision. The IHSP addresses the socio-economic and price gradients associated with housing within the municipal area. The IHSP identified change tools that are crucial for effecting the vision for urban growth and development in the municipal area:

- Integrate urban planning;
- Integrate transport modes, including its management;
- Promote, where practicable greater socio-economic integration of human settlements;
- Steer appropriate land use and expected land development;
- Facilitate economic development; and;
- Efficient allocation of municipal resources

According to the IHSP, Transformation Zones are targeted to accommodate the bulk of the new residential supply in the municipal area. The Northern Extension site is located north of the Adam Tas Corridor Transformation Zone. It will, therefore, contribute to the government-driven land development programme in the area that aims at developing new residential sites.

5.3.4.5 Stellenbosch Municipality Zoning Scheme By-Law

The Stellenbosch Municipality Zoning Scheme By-Law, 2019 was adopted by the Municipal Council on 29 May 2019 and took effect on 1 November 2019. The Zoning Scheme By-Law provides detailed land-use planning information, indicating for which purposed properties may be used as well as the regulatory process(es) to follow for development applications.

The proposed development is planned in strict accordance with the prescripts of the Stellenbosch Municipal Zoning Scheme By-Law, 2019.

5.4 Natural Environment

5.4.1 Environmental Impact

An environmental due diligence study of the Northern Extension Site was conducted by Guillaume Nel Environmental Consultants. Their findings are as listed below.

5.4.1.1 Vegetation

The original vegetation types found on the site are Swartland Shale Renosterveld (FRs9) and Swartland Granite Renosterveld (FRg2). According to Mucina and Rutherford (2006), Swartland Shale Renosterveld generally found in areas of the Swartland and the Boland on the West Coast lowlands. From Het Kruis in the north, southwards between the Piketberg and Olifantsberge, widening appreciably in the region around Moorreesburg between Gouda and Hopefield and encompassing Riebeek-Kasteel, Klipheuwel, Philadelphia, Durbanville, Stellenbosch to the south and Sir Lowry's Pass village near Gordon's Bay.

Additionally, Mucina and Rutherford (2006) noted that Swartland Granite Renosterveld is found largely around Darling from Ratelberg in the north to Dassenberg near Mamre and Pella as well as east of Wellington from Micha to Valencia, lower surrounds of Paarl Mountain, Joostenberg, Muldersvlei, Bottelaryberg, Papagaaiberg (Stellenbosch West) to Firgrove and northern Somerset West. The Swartland Shale Renosterveld and Swartland Granite Renosterveld vegetation types are classified as Critically Endangered and Endangered in terms of the National Vegetation Map, 2018.

As previously mentioned, the site has been cultivated and therefore completely transformed from its natural state. Furthermore, the southern portion of the site has also been invaded by informal dwellers. Therefore, it is highly unlikely that any indigenous vegetation occurs on the site.

Please refer to the figure below for a vegetation map of the site.

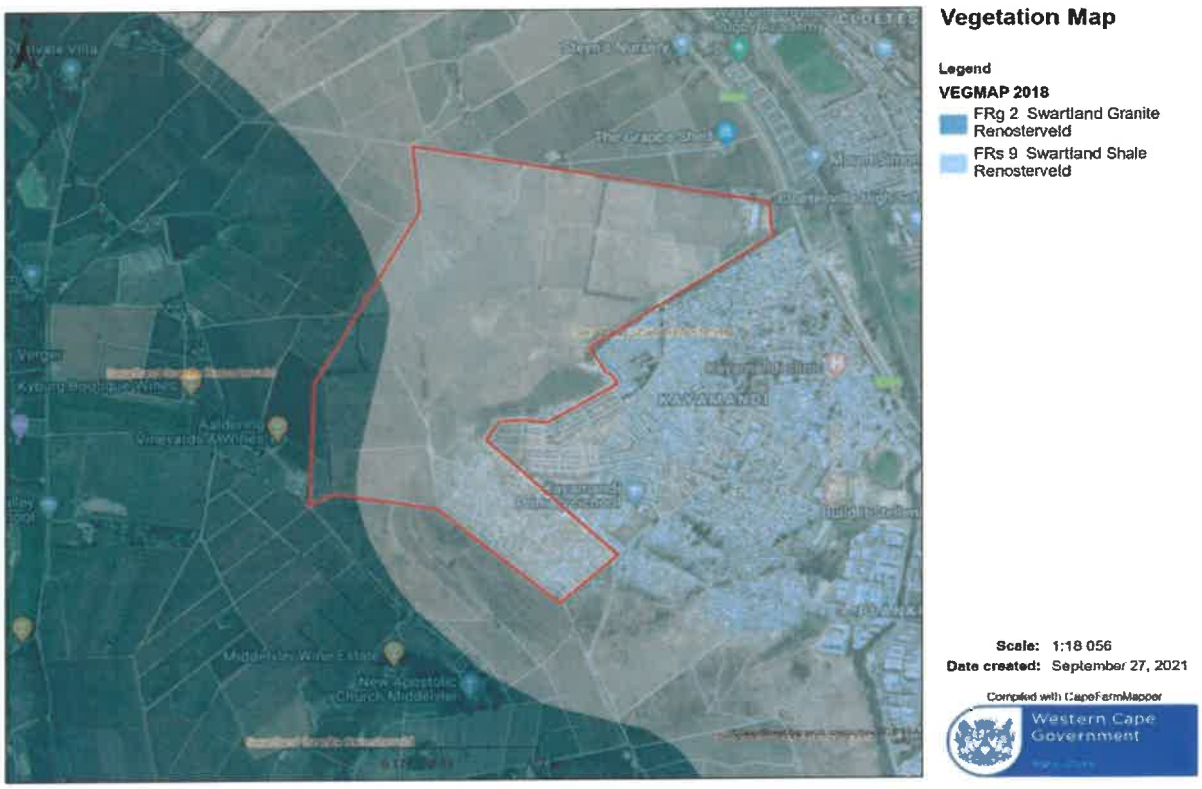


Figure 45: Site vegetation map

5.4.1.2 Freshwater Sources

Freshwater sources are of particular importance to take into consideration. A non-perennial watercourse was identified along the southern border of the site. Portions of the watercourse are located within the site's south-eastern border. Additionally, an artificial channelled valley bottom wetland is located in the southern portion of the site (Remainder Farm 182, Watergang).

It is essential that a Freshwater Specialist be appointed in order for a Freshwater Verification Assessment to be conducted to delineate the on-site watercourses and to identify any no development areas from a freshwater point of view.

Refer to the figure below for the mapped freshwater resources map of the site.

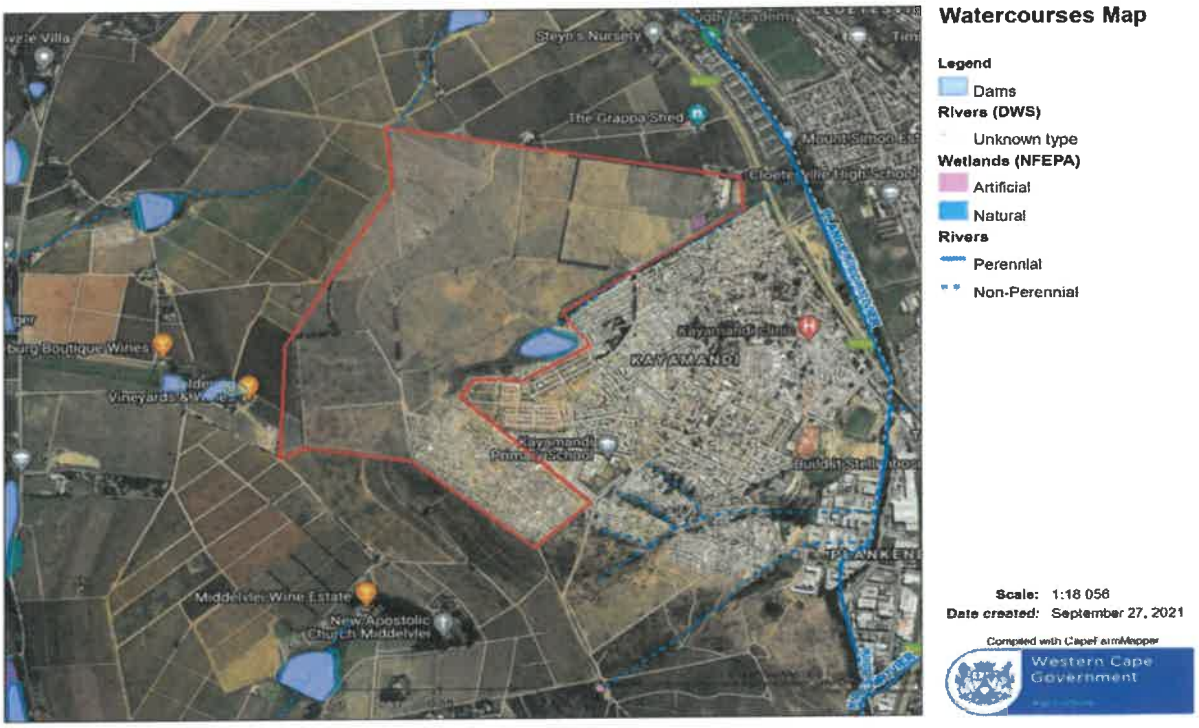


Figure 46: Watercourse map

The site was previously used for agricultural purposes and has therefore been transformed from its natural state. Furthermore, the southern portion of the site was invaded by informal dwellers in 2018. Additionally, watercourses were also identified on the site. A Freshwater Specialist conducted a Freshwater Verification Assessment of the site in order for the watercourses to be delineated.

The proposed development will result in listed activities in terms of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998) Environmental Impact Assessment (EIA) Regulations, 2014 (as amended April 2017), being triggered. Therefore, an Environmental Impact Assessment (EIA) Basic Assessment application process is underway.

Additionally, a Water Use Authorisation in terms of the National Water Act, 1998 (Act No. 36 of 1998) will possibly have to be applied for at the Department of Water and Sanitation (DWS). The Freshwater Assessment and Risk Assessment Matrix will determine the application process that will have to be followed, i.e. General Authorisation (shorter process) or Water Use License (longer process).

An application in terms of Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) will also be triggered by the proposed development. A Notice of Intent to Develop (NID) application have been submitted to Heritage Western Cape in terms of Section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).

5.4.2 Cultural Heritage and Archaeology

A Heritage Impact Assessment has been conducted by Lize Malan, Janine Herholdt & David Gibbs in October 2023. Refer to the Heritage Impact Assessment attached as **Annexure M** for full details of the application that is made in terms of Section 38(8) of the National Heritage Resources Act, as the development is subject to the requirements of the National Environmental Management Act.

Although the site has very little intrinsic heritage significance, development of the site could impact on the experience of the rural landscape as one approaches Stellenbosch along the R304 and also the Devon Valley landscape. In this regard it is noted that R304 approach has already been impacted by new high-density development to the east of R304 and in addition the development of Cloetesdal will largely negate the role of the site in landscape. As a result, it is argued that the IIIb grading for the eastern portion of the site is overstating its significance and the suggested grading is IIIc. However,

the western portion of the site where it crests the ridgeline and forms part of the Devon Valley, with its exceptional aesthetic significance should be considered part of the larger IIIb landscape.

From the assessment of the significance of the site and associated heritage resources, it is evident that the only issue of concern would be the impact of the proposed development on the cultural landscape. Furthermore, it is acknowledged that the site, being bounded by development to its south and north (albeit under construction) does in fact make a limited contribution to the cultural landscape that comprises the setting for the town of Stellenbosch, apart from the portion that forms part of the Devon Valley.

FINDINGS AND RECOMMENDATIONS OF THE HIA:

The site can potentially absorb a significant extent and intensity of development, without impact negatively on heritage resources. These resources are restricted to the visual amenity of the cultural landscape, particularly that of the Devon Valley.

Overall, the significance of the impact of the proposed development is regarded as moderate reducing to medium to low with mitigation.

The authors are confident that although the concerns raised with respect to certain aspects of the development are valid, these can also be addressed further down the line within the approval processes.

Thus, it is recommended that the preferred development option is supported, subject to the following:

•Development guidelines aimed at enforcing height restrictions as per the indicators (to a maximum of 5 storeys on the lower eastern portion) and addressing the massing of buildings to avoid over-scaled monolithic structures are prepared and submitted to the Stellenbosch Municipality, Heritage Section for approval.

•A landscape framework plan that addresses at least tree planting and fencing, particularly at the interface of the site with rural landscapes is prepared by a suitably qualified landscape architect and submitted to the Stellenbosch Municipality, Heritage Section for approval.

•Development of any structures within the eastern portion of the site that may protrude above the ridgeline, and/or development of any structures on the western portion of the site (to the west of the ridgeline) should be subject to the submission of site development plans to the local authority for approval by the Stellenbosch Municipality, Heritage Section. These SPDs should indicate building placement, massing and landscaping and should include 3D modelling, where appropriate.

The yellow-highlighted area below indicates the portions of the site where new structures will require submission of SDPs/sketch plans to the Stellenbosch Municipality, Heritage Section for approval. Proposals for new public/community facilities will require detailed SDPs to be submitted, and all new houses proposed within the yellow area will require the submission of sketch plans which must also indicate landscaping.

The Stellenbosch Municipality, Heritage Section should have the power to restrict the height of structures to one storey, to direct the placement of buildings on these sites and prescribe landscaping requirements.

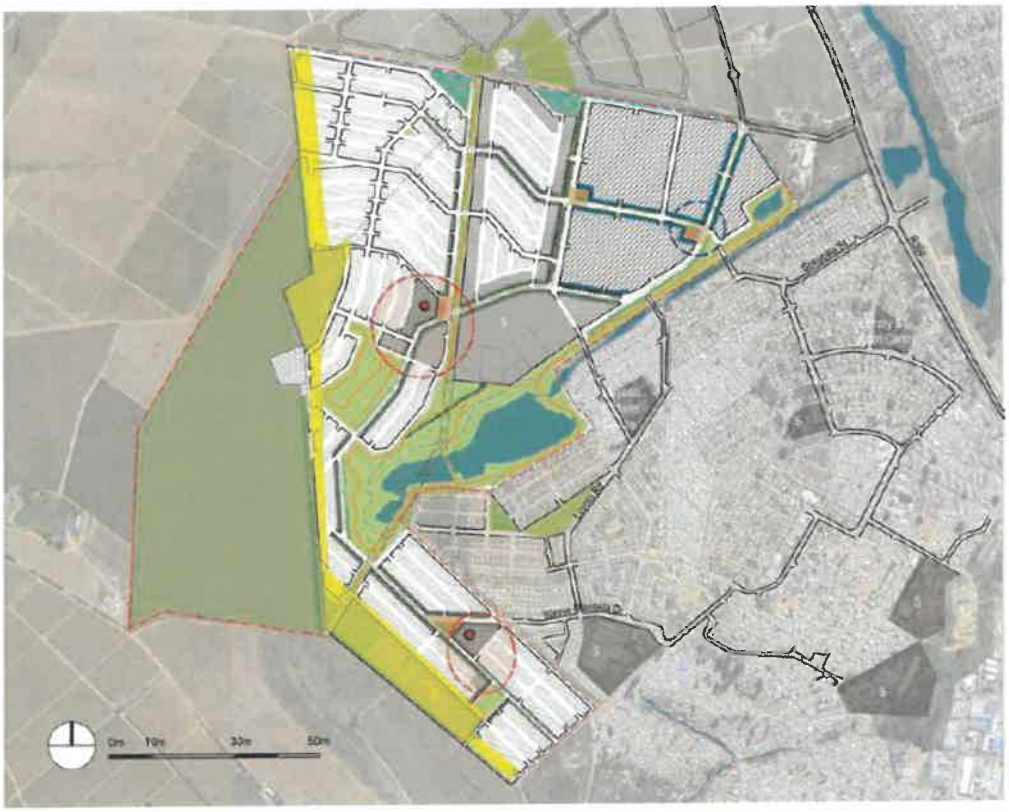


Figure 47 – Recommendations of HIA: UDF to be approved, subject to submission of SDPs/sketch plans for development in the yellow area for approval by Stellenbosch Municipality, Heritage Section

Refer to the Heritage Impact Assessment attached as **Annexure M**

5.4.3 Geotechnical Conditions

A geotechnical survey of the Northern Extension Site was conducted by Kantey & Templer Consulting Engineers. Refer to the Geotechnical Report attached as **Annexure N**. Their findings are as listed below.

The development area is located on farms 182 and 183 situated to the north of Stellenbosch. The site is bounded by agricultural land to the north, west and south. The existing Kayamandi residential area is located to the immediate east of the site.

Topographically the development area includes a substantial hill at the centre of the site with footslopes fanning out towards the erf boundaries. A small wetland exists in the north-eastern part of the site.

There is evidence of past agricultural activities across the entire site with derelict vineyards still present. Vegetation largely comprises low grasses and old vines. Mature trees are located along pre-existing farm roads.

Two earth dams are situated along the eastern side of the site separating the proposed development and the existing Kayamandi residential area.

The field investigation comprised the excavation of fifty-five (55) machine dug trial holes (Figure 15) put down to depths of up to approximately 3.0m below existing ground level at pre-selected readily accessible locations across the site.

Subsoil conditions were assessed by detailed examination of the in-situ materials exposed in the trial holes using standard visual and tactile procedures. Disturbed soil samples were extracted from selected soil horizons in the trial holes, these submitted to Messrs Steyn Wilson Laboratories for testing to determine the engineering properties of the site soils.

In addition, Dynamic Cone Penetrometer (DCP aka DPL) tests were carried out next to the trial holes. The tests were all carried out from ground level. In this test, a cone tipped steel rod is driven into the ground by means of a standardised falling weight, the penetration per blow providing a useful indication of in-situ density.

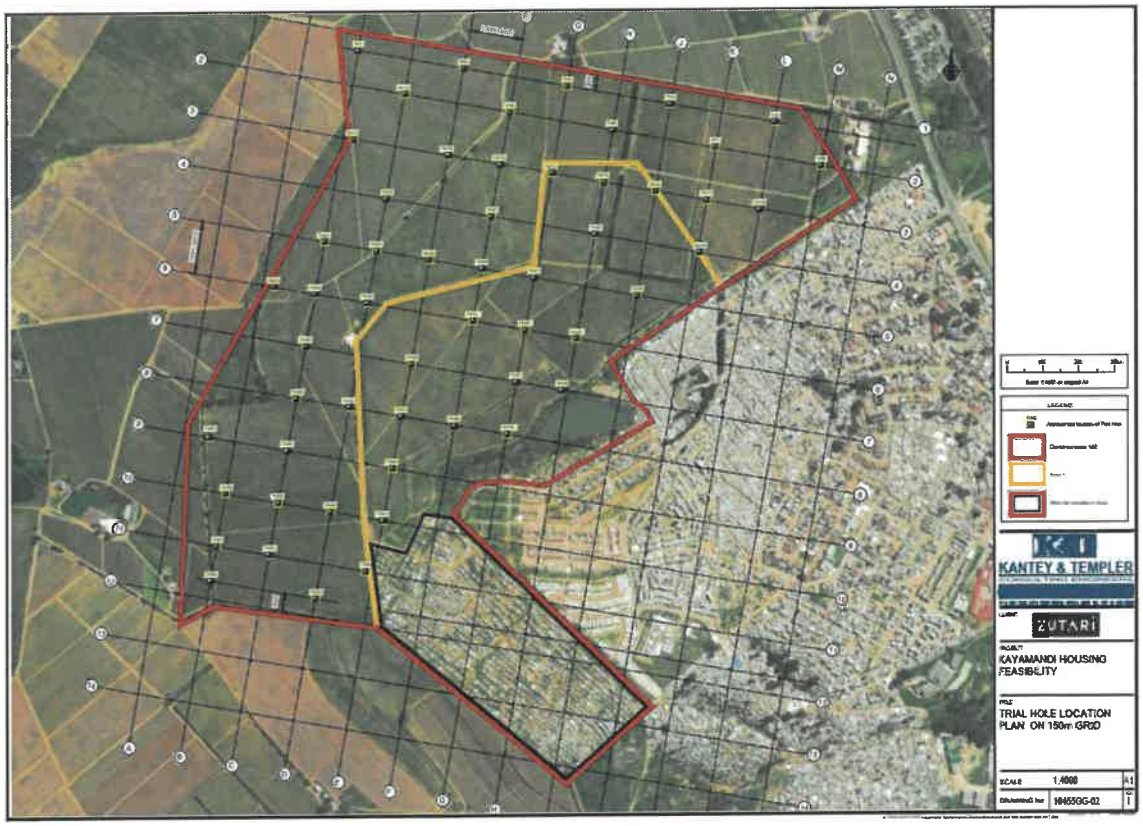


Figure 48: Trial hole location plan

The site is underlain by shales of the Malmesbury Group which are mantled by residual and transported soils of variable thickness. The upper up to 1,55m of the soils profile has been extensively reworked (during past agricultural activities).

Building foundation settlement of the order of 10 to 20mm is anticipated where founding conventionally. Founding improvements include soil densification followed by founding at depth and/or the use of stiffened concrete raft foundations.

Base, subbase, selected subgrade and pipe bedding must all be imported.

Groundwater levels are anticipated to deteriorate and rise to within 1,0m of ground level during the rainy season.

Excavation conditions will classify as 'soft excavation' in terms of South African National Standards (SANS) 1200D for naturally transported and residual soils with some intermediate material occurring locally. Excavation in the more competent rock will classify as "hard excavation".

The site development area will classify as 'S1' in terms of the National Home Builders Regional Council (NHBRC) residential site class designation.

Given the low shear strength of the upper reworked soils as well as the fissured/shattered nature of the residual material, all excavations and trenches will have to be suitably battered/shored to ensure safe working conditions.

During periods of high rainfall, the upper site soils can become saturated and lead to difficult underfoot conditions. Having regard for the sloping nature of the site the potential for soil saturation and softening must be bourne in mind when selecting plant during construction.

- The site is underlain by shales of the Malmesbury Group which are mantled by residual and transported soils of variable thickness. The upper up to 1,55m of the soils profile has been extensively reworked (during past agricultural activities).
- Building foundation settlement of the order of 10 to 20mm is anticipated where founding conventionally. Founding improvements include soil densification followed by founding at depth and/or the use of stiffened concrete raft foundations.
- Base, subbase, selected subgrade and pipe bedding must all be imported.
- Groundwater levels are anticipated to deteriorate and rise to within 1,0m of ground level during the rainy season.
- Excavation conditions will classify as 'soft excavation' in terms of SANS 1200D for naturally transported and residual soils with some intermediate material occurring locally. Excavation in the more competent rock will classify as "hard excavation".
- The site development area will classify as 'S1' in terms of the NHBRC residential site class designation.

The recommendations and discussions presented in the geotechnical report are based on the subsurface conditions encountered during the site work at the time of investigation and on the result of the limited field and laboratory testing on samples obtained from the trial holes. There may be, however, conditions pertaining to the site which have not been taken into account due to the frequency of the trial holes. The recommendations and discussions presented in this report should be considered preliminary and presented for guidance purposes only.

It is expected that once terracing of the site has commenced and the proposed buildings have been designed and set out, further inspections of foundation excavations etc. will be undertaken with the assistance of the geotechnical engineers and/or soils tests be carried out for approval of subgrade and founding conditions throughout.

Refer to the Geotechnical Report attached as **Annexure N.**

5.4.4 Floodline determination

Graeme McGill Consulting was appointed to determine the 1:50 and 1:100 floodlines for the proposed Stellenbosch Northern Extension.

Refer to the Floodline Determination Study attached as **Annexure O**.

The study undertaken comprised the following:

5.4.4.1 River hydraulics

Modelling the central watercourse using the water surface profile software package HECRAS. This required inputs from field observations, the survey data, any constraints and the peak flows, for floods of various return intervals. Water surface profiles and flow velocities for a range of flows in the river are to be determined.

Determination of floodlines and demarcating of these in plan on drawings.

5.4.4.2 Flood hydrology

Determination of flow peaks for return periods of 1:50 year and 1:100 year, calculated using standard hydrological methods namely, Rational Method, Standard Design Flood Method, and HEC-HMS using the SCS Runoff Method.

The catchments which drain to the site are depicted in Figure 26. The overall catchment has been sub-divided in order to determine flood peaks at 3 locations:

- Start point upstream of the dam (SC1)
- The upper and lower catchments upstream of R304 (SC1 + SC2)

- The total catchment, upstream of R304 (SC1 + SC2 + SC3)

The parameters for these three sub-catchments are listed in Table 10.

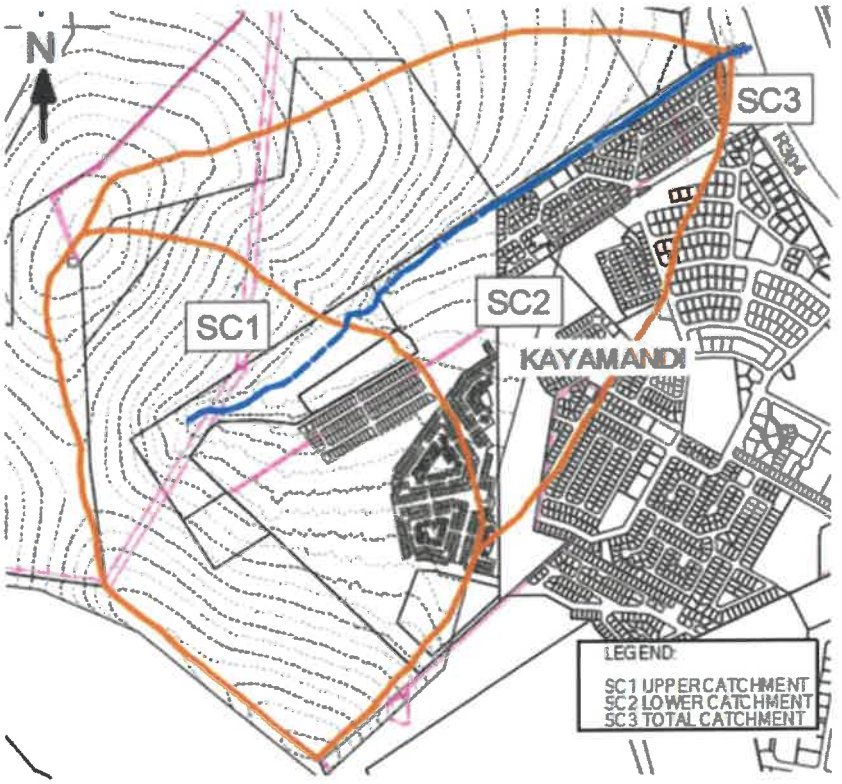


Figure 49: Sub-catchment boundaries

Table 10: Catchment Parameters

PARAMETER	SC1	SC1+SC2	SC1+SC2+SC3
AREA (km²)	0.641	1.309	1.311
Average slope	11.85%	9.40%	9.34%
Length of longest collector (km)	0.95	1.92	1.94
Time of concentration (min)	5.9	13.2	13.4
Basin lag (min)	3.5	7.9	8.0
Runoff factor CN (SCS method)	77	77	77
NOTE: Sub-catchments at the dam, upstream & downstream boundary of Stellenbosch Northern Extension: SC1, SC2, SC3			

5.4.4.3 Storm data

The City of Cape Town commissioned the University of Kwazulu Natal to investigate the likely effect of climate change on storm intensities in the Western Cape. The recommendation from this investigation was that an increase of 15% over the existing IDF curves be allowed for. This was accepted by the City and a set of point storm rainfall depths has been prepared for a one minute by one minute grid covering the Western Cape.

5.4.4.4 Floodlines

The software package HEC-RAS (Ver 5.0.7) was used to compute the water surface profiles for the 1:50 and 1:100 year recurrence intervals as follows, using cross-sections from the two surveys and the flood peak flows as illustrated in Table 11.

Table 11: Average peak flows along the river

	AVERAGE PEAK FLOWS		
RI(YEARS)	DAM	X	DOWNSTREAM
10	10.1	12.0	14.0
20	13.0	15.6	18.1
50	17.3	20.7	24.1
100	20.7	24.8	29.0

The upstream boundary condition was deemed to be the normal depth as defined by the river grade and the R304 with its culvert was the downstream control.

The estimated Manning n roughness coefficients, based on field inspections, for the river are given in the Floodlines Report attached.

The results of the water surface profiles analysis and floodline energy levels have been plotted on the accompanying drawing MC356-C400 contained in the report.

Refer to the Floodline Determination Study attached as **Annexure O**.

5.5 Engineering & Bulk Services

Refer to the Civil Engineering Services Report attached as **Annexure P**.

5.5.1 Water Infrastructure

The general area of Kayamandi is currently supplied with water from the Kayamandi Reservoir through a rising main from the Kayamandi pump station and sump. Water can also be pumped from the Klienvlei reservoir to the existing Kayamandi reservoir. The existing system does not have sufficient capacity for the proposed development to proceed. According to the capacity analysis report by GLS Consulting, it is proposed that the Northern Extension development area is supplied with water from a new 10 ML higher lying reservoir (the so called Kayamandi Northern reservoir). New supply pipelines from the proposed Kayamandi Northern reservoir will be required to services the proposed development.

The following new 13eservoirr, main supply pipelines, pressure reducing valves and booster pump stations will be required in future to service the Kayamandi Northern Extension:

- New 10.0 ML reservoir at 245m top water level (SSW.B31);
- 215 m x 400 mm Ø Pipe to be installed (SSW18.1);
- 160 m x 400 mm Ø Pipe to be installed (SSW18.2);
- 850 m x 200 mm Ø Pipe to be installed (SSW18.3);
- 115 m x 355 mm Ø Pipe to be installed (SSW18.4);
- 825 m x 250 mm Ø Pipe to be installed (SSW18.5);
- 985 m x 200 mm Ø Pipe to be installed (SSW18.6);
- 190 m x 160 mm Ø Pipe to be installed (SSW18.7);
- New 150 mm Ø PRV to be installed (SSW19.1a);
- New 200 mm Ø PRV to be installed (SSW19.1b);
- 445 m x 250 mm Ø Pipe to be installed (SSW19.2);
- New 150 mm Ø PRV to be installed (SSW19.3);

- 240 m x 250 mm Ø Pipe to be installed (SSW19.4);
- 70 m x 160 mm Ø Pipe to be installed (SSW20.1);
- 6.5 L/s @ 30 m new booster pump station (SSW20.2);
- 6.5 L/s @ 30 m new booster pump station (SSW21.1);



Figure 50 - Bulk Water upgrades (GLS Master Plan 2023)

New bulk supply infrastructure should be constructed from the existing Papegaaiberg reservoir site to the Kayamandi Northern reservoir to supply the development area with bulk water and Helshoogte system phase 1, which includes a pipeline from the Idas Valley no.2 reservoir to the Papegaaiberg reservoir. The following bulk water augmentation project is proposed in the water master plan in order to supply bulk water for the proposed Kayamandi Northern reservoir:

• 150 L/s @ 135 m pump station to be constructed at Papegaaiberg reservoir (SSW.B23);

• 3,145 m x 450 mm Ø Pipe to be installed from Papegaaiberg reservoir to the new Kayamandi Northern reservoir (SSW.B30);

• 245 m x 550 mm Ø Pipe to installed from Idas Valley no.2 reservoir to the Papegaaiberg reservoir (SSW6.8a);

• 4,560 m x 450 mm Ø Pipe to installed from Idas Valley no.2 reservoir to the Papegaaiberg reservoir (SSW.B20a).

As alternative to the bulk supply augmentation project from the Idas Valley WTP to the Papegaaiberg reservoir (Helshoogte project, Phase 1), the bulk pipeline from the Skilpadsvlei reservoir to Papegaaiberg can be implemented. Increase of the storage capacity at the Papegaaiberg reservoir site is not seen as a minimum requirement to accommodate the proposed development in the existing system, but it is recommended that additional storage capacity is provided in the near future at the Papegaaiberg reservoir site.

5.5.2 Sewer Infrastructure

The Kayamandi Northern Extension development area falls within the existing Adam Tas drainage system area, which gravitates directly towards the Stellenbosch Wate Water Treatment Plant (WWTP). The development area is situated within the sewer priority area.

New collector sewers will be required to service the northern areas (areas S15.1 to S15.9 & S81). It is proposed that these areas connect to the existing 450 mm diameter bulk sewer adjacent to the R304 Main Road (Koelenhof Road). The southern areas of the site (S82 and S17) will be connected to the existing sewer system of Kayamandi. Figure 12 indicates the distribution upgrades required for the proposed development.

Sewer distribution system upgrades required for the proposed development are as follows:

- 310 m x 160 mm Ø New Gravity pipeline (SSS27.2)
- 200 m x 400 mm Ø New Gravity pipeline (SSS27.3)
- 205 m x 250 mm Ø New Gravity pipeline (SSS27.5)
- 960 m x 200 mm Ø New Gravity pipeline (SSS27.6)
- 425 m x 200 mm Ø New Gravity pipeline (SSS27.8)
- 460 m x 160 mm Ø New Gravity pipeline (SSS27.10)
- 710 m x 160 mm Ø New Gravity pipeline (SSS27.11)
- 330 m x 160 mm Ø New Gravity pipeline (SSS27.13);



Figure 51 - Bulk sewer distribution upgrades (Municipal Master Plan 2023)

The bulk sewer system downstream of Kayamandi has sufficient spare capacity to accommodate more than 50% of the total development area. Upgrading of the bulk system will however be required to accommodate the full development area. Figure 13 indicates the bulk infrastructure upgrades required for the proposed development.

The following upgrades to the bulk sewer system downstream of Kayamandi is proposed in the sewer master plan to accommodate the full development area:

- 760 m x 600 mm Ø upgrade existing gravity (SSS1.2)
- Upgrade existing flow diversion (SSS1.4)

- 185 m x 600 mm Ø upgrade existing gravity (SSS1.5)
- Upgrade existing flow diversion (SSS1.6)
- 450 m x 600 mm Ø upgrade existing gravity (SSS1.7)

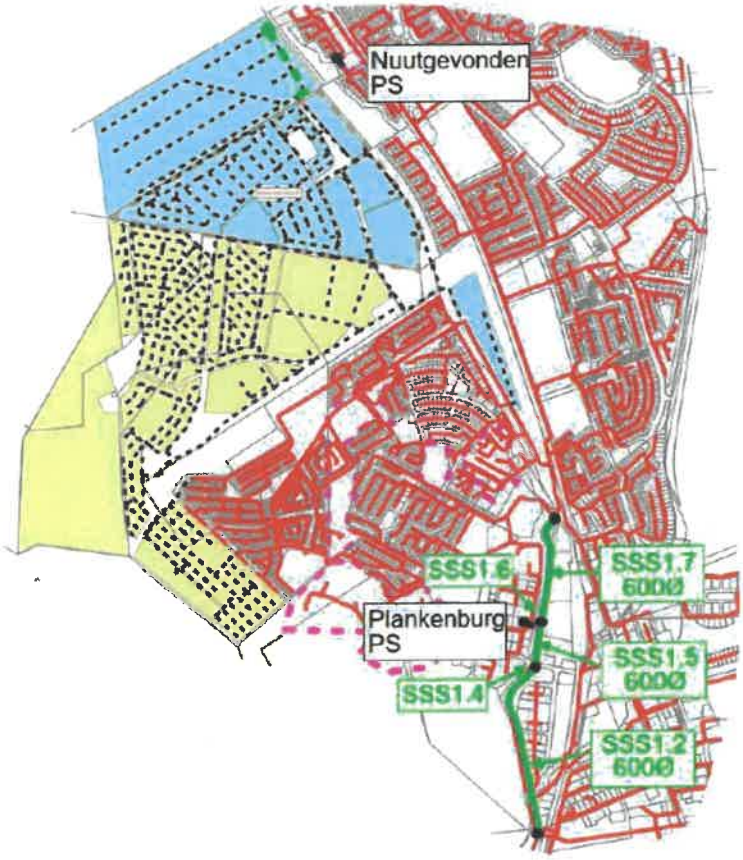


Figure 52 - Bulk sewer outfall upgrades (Municipal Masterplan 2023)

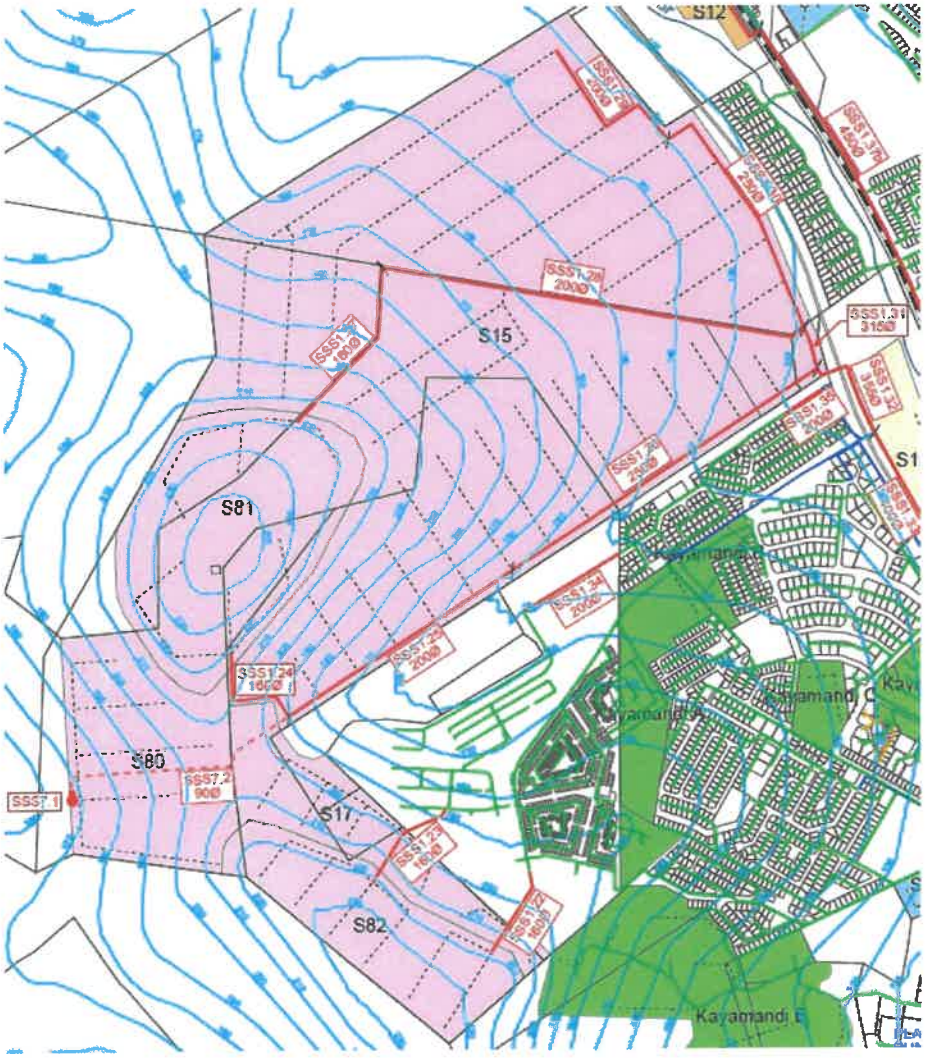


Figure 53: Bulk Sewer Upgrades (GLS Master Plan 2019)

5.5.3 Stormwater Infrastructure

The in-situ ground conditions are considered semipermeable open space with silty clay soils, grassland vegetation and light bush. Majority of the site slope towards the existing dam and river. The river flows from the Watergang dam along the south-east boundary in the direction of the regional road, R304 and crosses the road through a 2.46m x 2.5m concrete box culvert, creating a buffer between the proposed development and existing Kayamandi.

Figure 17 illustrates the high point and watershed essentially dividing the proposed development into two main catchment areas. The southern catchment will drain to the existing Watergang dam and river, and the Northern catchment will drain to proposed attenuation ponds.

Integrated stormwater systems in the open spaces, together with the natural features will be used to treat and accommodate stormwater flow. SuDS (Sustainable Design Systems) will be implemented within the street section and linear parks to reduce stormwater runoff. Three attenuation ponds are proposed along the north-western boundary of the site, which will ultimately discharge into the Plankenburg River.

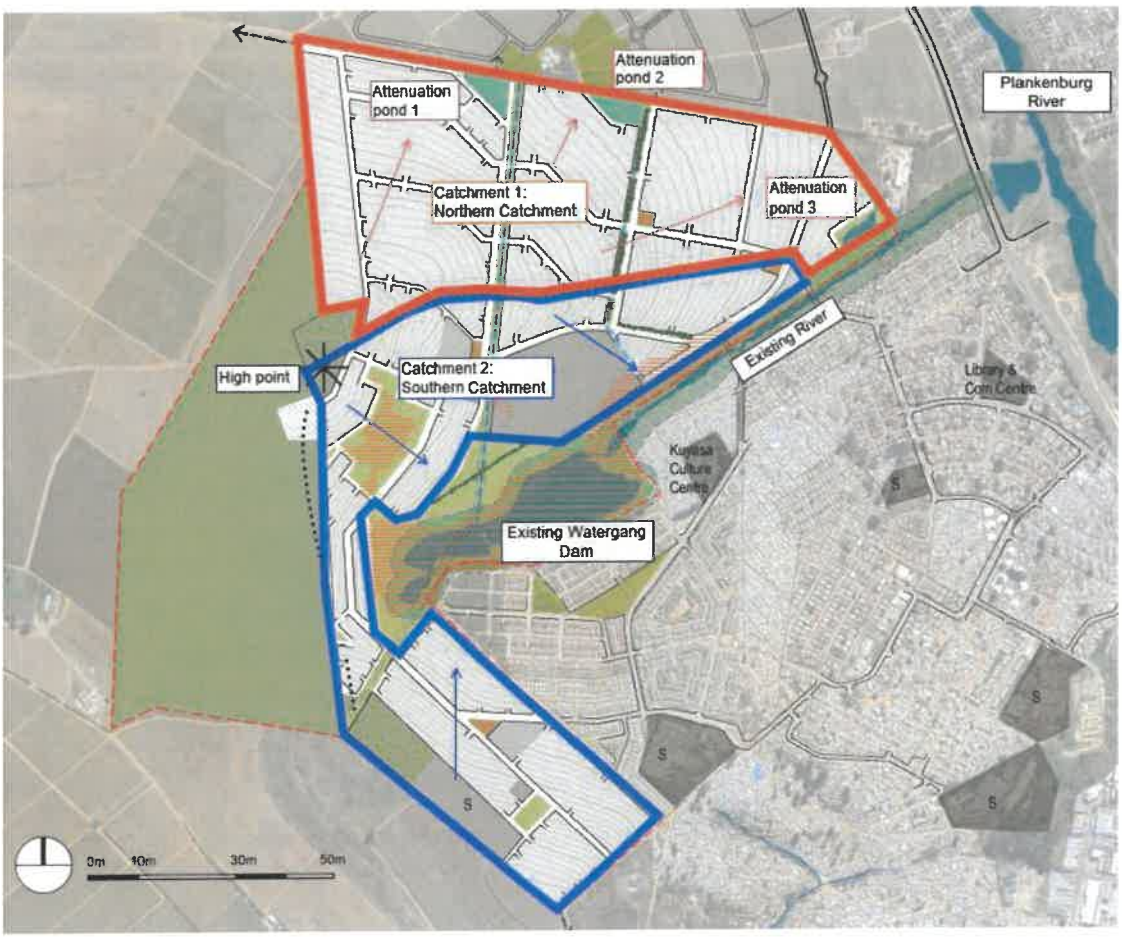


Figure 54: Overland stormwater flow

In line with the Red Book (CSIR, 2019) and Municipal Design Guidelines (Municipality, 2015), the proposed stormwater design will be based on restricting post-development peak flows to pre-development peak flows, for the same recurrence interval. The proposed stormwater design concept will comprise of smaller subdivided catchment areas conveying runoff generated from roads and parking areas to sustainable drainage systems such as grassblock areas, bio-retention gardens and dry swales incorporated in the road servitudes and open spaces. Attenuation of the difference between the pre- and post-development peak flows will be accommodated in the three attenuation ponds and in the existing dam.

Community facilities, commercial, and mixed-use sites within the development will be required to treat and attenuate the difference between their pre- and post-development peak run-off generated from the specific site on the site before discharging into the main stormwater system of the greater development.

Refer to the Civil Engineering Services Report attached as **Annexure P**.

5.5.4 Electrical engineering

Refer to the Electrical Engineering Services Report attached as **Annexure Q**.

Services analysis to determine bulk and reticulation services was conducted by De Villiers & Moore. The availability of the estimated 18.8MVA electrical supply to the development was discussed with the Stellenbosch Municipality. The municipality indicated that they are busy with infrastructure upgrades to the proposed development area, which will cater for the required load. The required capacity for the development will be made available as per the rolling out plan of the development.

• The primary 11kV feed will be from Cloetesville 66kV/11kV substation. The development will require two switching substations and the secondary 11kV network supplying the development will feed from these two switching substations. Two 14m x 20m sites are required to allow for the switching substations. The positions of the substation sites are to be finalised during the detailed design stage of the project.

• A 3m wide servitude is to be registered along the southern boundary of the development, to allow for the future upgrades and cable routes.

Each phase / area will be supplied with a low-voltage cable-network and kiosks, municipal metering and distributing consumer cables to each dwelling and building. All cabling will be done in accordance with Stellenbosch Municipal standards.

• All LV infrastructure will be installed in the municipal road reserve.

• The LV network will be supplied from minisubs connected to MV rings between the switching substations.

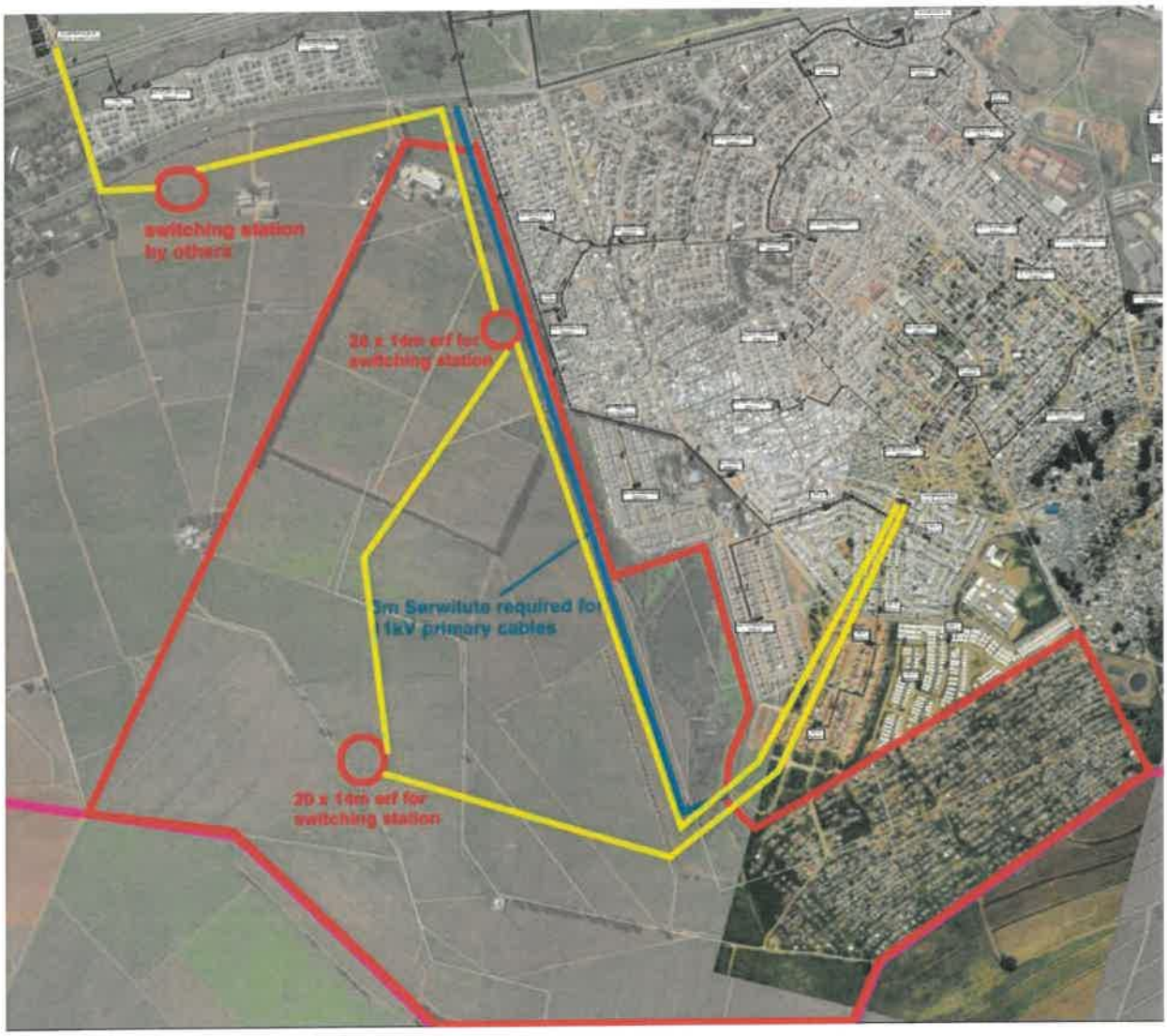


Figure 55: Bulk electrical reticulation

Refer to the Electrical Engineering Services Report attached as **Annexure Q**.

5.5.5 Transport Planning

Refer to the Traffic Impact Assessment attached as **Annexure R**.

The study area of this TIA and the road network classification is shown in the figure below. This figure also shows the roads that will be affected by the proposed development.

The development will gain access from the larger road network via the R304, which is a provincial road, and the road network of the greater Kayamandi. The existing intersection spacing along R304 in the vicinity of the Kayamandi all comply with the Access Management Guidelines, which stipulates that the spacing between intersections (signalised or unsignalized) should be 270 m:

• Welgevonden Boulevard Signalised Intersection - Sokuqala Street Unsignalised Intersection is spaced a 1500 m from each other.

• Sokuqala Street Unsignalised Intersection - Masitandane Road Signalised Intersection is spaced a 680 m from each other.

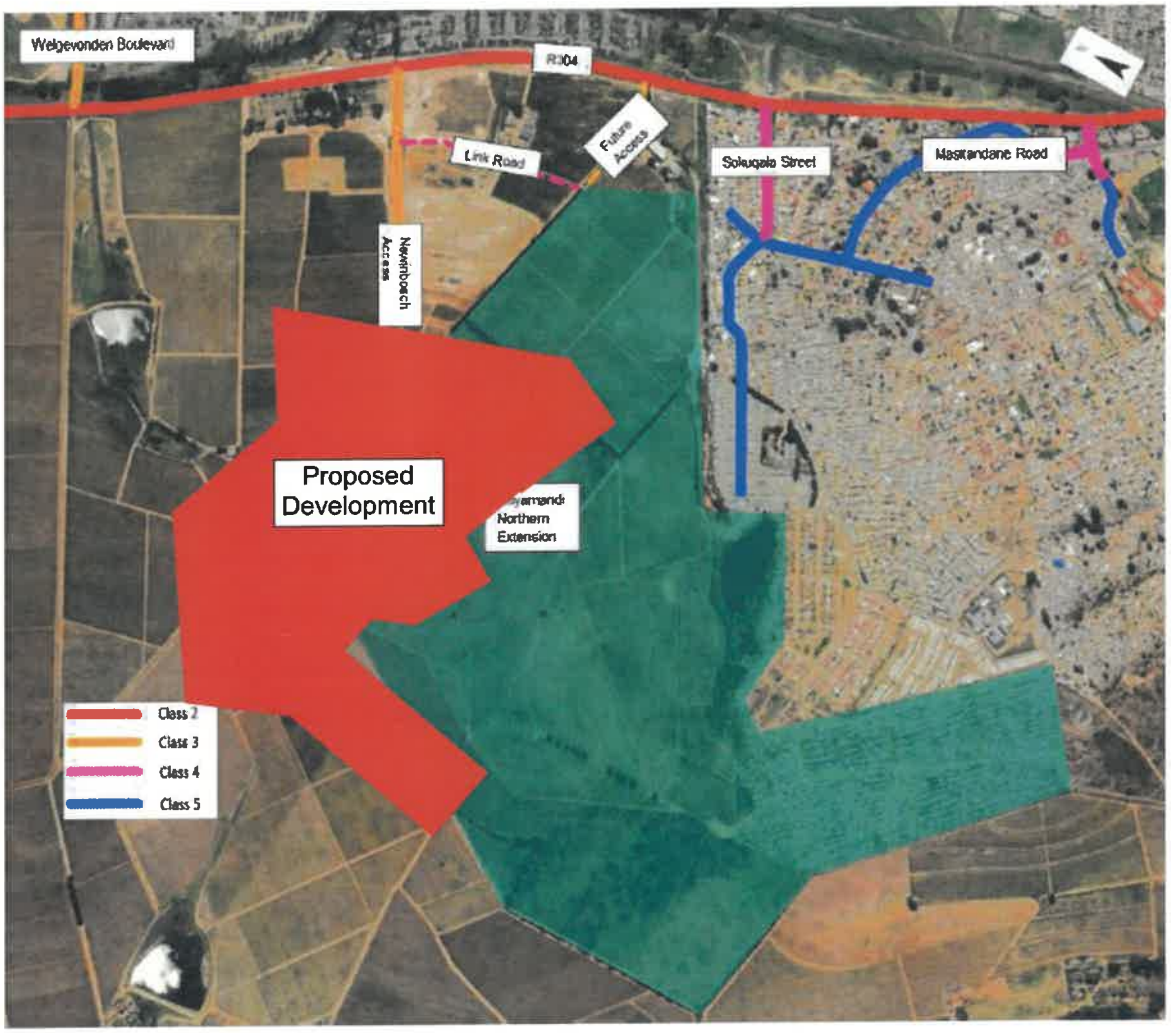


Figure 56 - TIA study area

5.5.5.1 Road network

The dualling of the R304 between Kayamandi and the R44 intersection has been on the cards for several years. The Stellenbosch Roads Masterplan (dated 2019) and the latest CITP (2022-2026) recommends that this road be upgraded to a dualled carriageway with two lanes per direction.

Below an extract form the CITP:

"R304/Bird Street Link – The link to Stellenbosch from the N1 through the R304 (provincial responsibility) is one of the five major road links into central Stellenbosch – see Chapter 3. The first development which is part of the proposed Adam Tas Corridor proposals (Precinct 10 – referred to as Newinbosch) is in fact starting at this time and a new access road from the R304 to the site, as well as partial dualling of the R304, is almost completed – refer to Figure 7-5. This development will put further pressure on the R304 leading into Stellenbosch from the west. It is being addressed through the planned doubling of the R304 between Kayamandi and the R44. Exactly how the current bottleneck of the R44/Bird intersection will be upgraded, is not known.'

In addition to the dualling of the R304, the R304 Arterial Management Plan for the section of the R304 between Klipheuwel and Stellenbosch, recommends that the intersection between the R304 and Sokuqala Street be upgraded to a signalised intersection.

5.5.5.2 Traffic and Transport Considerations

The trips generated by die proposed development were distributed onto the existing road network. The assumed trip distribution is shown in Appendix C.

The assignment exercise was based on the following assumptions:

► Incoming traffic: It was assumed that 45% of the trips attracted to the Development will be generated from the north/west of the development (from the N1 side), accessing the development from the R304 and 35% will be generated south/east of the development (from Stellenbosch), accessing the development from the R304. The remainder of the traffic (20%) is assumed to be generated from the greater Kayamandi area.

► Outgoing traffic: It was assumed that 35% of the outgoing traffic would head north/west, away from Stellenbosch towards the N1. 45% of the outgoing traffic was distributed to the south/east towards Stellenbosch. The remaining 20%, was distributed into the greater Kayamandi road network. Of that 20%, 10% will desipate into the greater Kayamandi and 10% will head towards Stellenbsoch via the R304/Masitandane intersection.

The capacity of the existing road infrastructure was used to inform the phasing of the development. Initially the full development traffic was added to the existing road network, Sidra results indicated that this is not feasible and will lead to a complete breakdown of the road network in the vicinity of the development, specifically intersections along the R304.

Then a stepwise approach was followed in which development traffic were added incrementally over a period of time and the road upgrades required for each phase of the development identified

Table 12 - Summary of Development Phasing

Phase	Development Proportion	Assumed Year	Infrastructure required
1	25% of Development	2026	Dualling of R304 and the signalization of R304 / Sokuqala Steet intersection.
2	75% of Development	2030	Dualling of R304 and the signalization of R304 / Sokuqala Steet intersection.
3	100% of Development	2033	Dualling of R304 and the signalization of R304 / Sokuqala Steet intersection. A second access. Dedicated left turn lane on the R304 of the southern approach of the R304 / Masitandane intersection. Double right turn lane on Masitandane Road at the R304 / Masitandane intersection.

5.5.5.3 Access and Spacing Requirements

The newly constructed Newinbosch Access, via Link Road, will be used as primary access route into the Development. A second access will be built in the future.

The existing and future intersections along the R304, between Welgevonden Boulevard and Masitandane Road, are:

- ► R304/Welgevonden Boulevard – an existing signalised intersection
- ► R304/Newinbosch Access Road – a proposed signalised intersection
- ► R304/Future Proposed Access Road – a proposed signalised intersection
- ► Sokuqala Street – an existing unsignalized intersection, future proposed signalised intersection
- ► R304/Masitandane Road – an existing signalised intersection

Considering the actual and required distances between the intersections along the R304, the proposed distances between signalised intersections will not comply with the AMG and the location of the Future Proposed Access (the second access to the Development) may not be feasible.

5.5.5.4 Non-Motorised Transport andPublic Transport

Residents of Kayamandi relies heavily on NMT and PT modes. It is therefore essential that the internal roads of the Development cater for these modes.
The internal roads of the Development will have road reserves ranging from 8m wide residential streets to a 16m wide "primary boulevard".

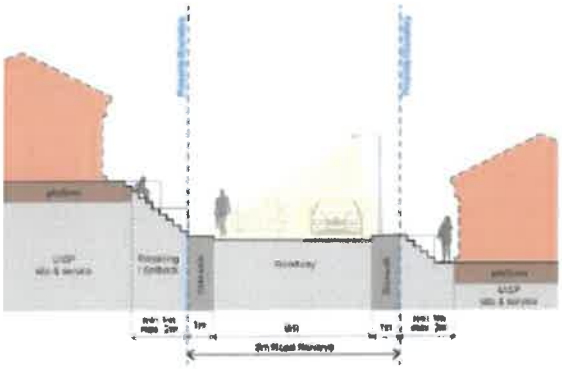


Figure 25: Residential Street (8m road reserve)

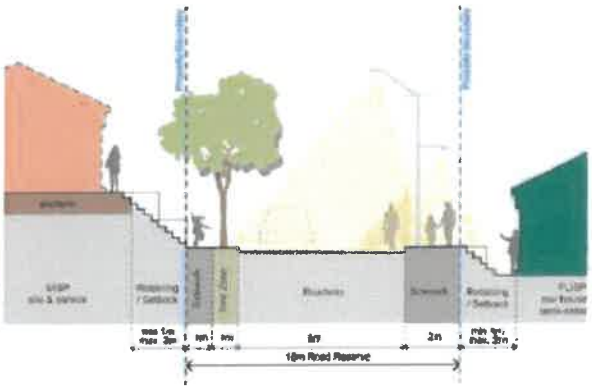


Figure 26: Tertiary Route (10m road reserve)

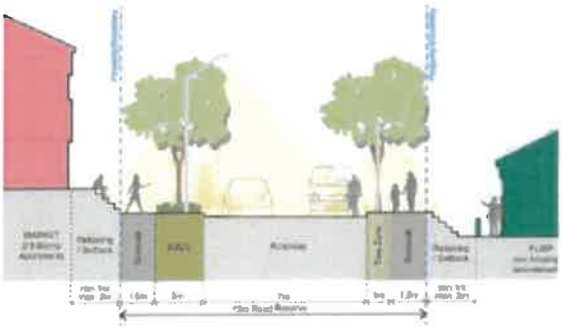


Figure 27: Secondary Route (13m road reserve)

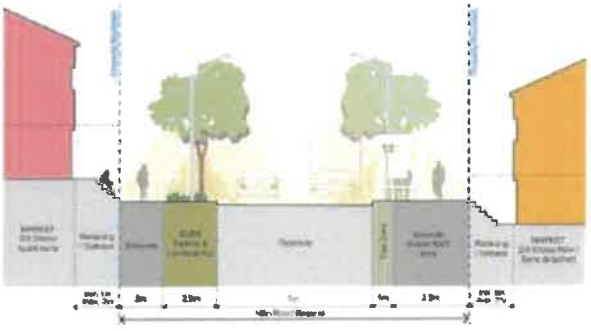


Figure 28: Tertiary Route (16m road reserve)

It is recommended that NMT facilities along the external network (shown in Chapter 7) be extended along the Link Road to tie into the internal roads and the NMT facilities provided as part of the Development.

Two sites have been identified to be future taxi ranks, this is in addition to the existing taxi rank on the corner of the R304 and Masitandane intersection



Figure 57: Existing signalised pedestrian crossing along R304

5.5.5.5 Traffic Impact Assessment

The Traffic Impact Assessment supports the development of the Kayamandi Northern Extension. There are however limitations to the existing road network which need to be addressed in order to accommodate the full extent of the Development.

Refer to the Traffic Impact Assessment attached as **Annexure R**.

6 PUBLIC PARTICIPATION

The public participation process followed for the application is in accordance with Section 41(7) of the Stellenbosch Municipal Land Use Planning Bylaw (2015).

The prescribed period which must be allowed for the submission of inputs and comments on an application is 30 days for interested and affected parties, and 60 days for any organ of state.

7 CONCLUSION

Stellenbosch has grown significantly as an educational, commercial and tourism node. This growth and influx of people resulted in the need for an integrated mixed-income human settlement project. Stellenbosch Municipality identified the Northern Extension site as an ideal site for an integrated mixed-income human settlement development.

The main objective was to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, for a mixed-income development, creating housing opportunities for a wide range of income categories. Zutari was appointed to evaluate the development potential of the site from an engineering, planning and environmental perspective.

Extensive investigations and studies conducted by the multi-disciplinary professionals identified all site sensitivities and opportunities and informed the urban design framework and ultimately the subdivisional layout plan that formed the basis of this application.

The proposed Northern Extension Integrated Mixed-Income Human Settlement Development makes provision for approximately 4500 residential opportunities across various typologies to cater for a wide range of income groups, together with a range of other land uses such as mixed uses, business sites, educational facilities, and community facilities.

The report provides a motivation for the proposed consolidation, rezoning and subdivision of the following portions of the Farms 182 and 183 Stellenbosch in order to create an integrated mixed-income human settlement development:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

The proposal is made in accordance with the provisions of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015 as well as the Stellenbosch Municipality: Zoning Scheme By-Law, 2019. Based on the evidence presented and the need for additional housing opportunities in the area, it can be argued that the proposed development will provide a much-needed service to the local residents of Stellenbosch.

In view of the above, it is recommended that the Stellenbosch Municipal Council look favourably upon this application.

We thank you for your consideration of the proposed application and look forward to your response.

By my signature below I certify the correctness of the information above.

Rudolf Schröder Pr. Pln A/151/2009

Professional Planner

CR Schröder

30 November 2023

Signature

Date

Annexures

ANNEXURE	DESCRIPTION
A	Application Form, completed and signed by Applicant
B	Power of Attorney (Zutari's Appointment Letter & SLA)
C	Proof of Registered Ownership (Title Deed)
D	Conveyance Certificates
E	Copy of the Surveyor-General's Diagrams
F	Locality Plan
G	Subdivisional Layout Plan
H	Zoning Certificates
I	SACPLAN Registration Certificate
J	Contour Cadastral Basemap
K	Urban Design Framework
L	Phasing Plan
M	Heritage Impact Assessment
N	Geotechnical Report
O	Floodline Determination Report
P	Civil Engineering Services Report
Q	Electrical Engineering Services Report
R	Traffic Impact Assessment Report
S	Consolidation Plan

In diversity there is beauty and there is strength.

MAYA ANGELOU

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ANNEXURE F

STELLENBOSCH MUNICIPALITY

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MEMORANDUM

DIREKTEUR: INFRASTRUKTUURDIENSTE
DIRECTORATE: INFRASTRUCTURE SERVICES

CIVIL ENGINEERING SERVICES

To ▫ Aan:	**Director: Planning + Economic Development**
Att Aandag	**Nicole Katts**
From ▫ Van:	**Director: Infrastructure Services**
Date ▫ Datum:	**10 April 2026**
Our Ref ▫ Ons Verw:	**Civil LU 2121**
Town Planning Ref:	**LU/11809**
Re ▫ Insake:	**Farms 182 and 183: Rezoning and Subdivision for the Northern Extension Integrated Mixed-Income Development**

This Memo replaces our Memo dated 20 Jan 2026. This revised Memo is to bring the "Roads" conditions in alignment to the road upgrades agreed between the municipality and the provincial roads authority.

The following engineering documents were evaluated as part of this application:

- Town Planning Motivation Report by Zutari dated 2024/01/25, Revision 3;
- Northern Extension Zoning Plan and Subdivision Plan Drawing No 1001438-ZUT-LL-DRG-TP-NE 000-00 Rev 2 by Zutari, dated20/11/2025 (as per revision details);
- Zutari e-mail dated Thu 2026/04/09 14:41 – re Northern Extension – Road upgrade conditions;
- Civil Services report by Zutari, dated 2025/10/07;
- Report on bulk water and sewer upgrades: drawings and costing, by Zutari, e-mail dated 19 June 2024 and meeting minutes summarizing the bulk upgrade requirements, by Zutari, e-mail dated Tue 2025/11/11 07:35. The Zutari report incorporates the information as per:
    - GLS report on water and sewer capacity dated 28 Nov 2023 (Revision 1);

Civil LU 2645: Farm 182 &183 Stellenbosch (LU-16553 TP592-2023)

Development Parameters (As per the Civil Services Report)

Item no	Land use description	Amount of Units		Unit	Water demand rate per day		TOTAL DEMAND AADD (kl/d)
					Rate per unit:	*Rate by Area:*	
		Qty	Unit-type		kl per ha	kl per 100 sqm	
1	Less Formal Residential Stands						-
1.1	Insitu upgrade - toilet (5 households per toilet)	500	Capita	5	0.025		62.50
1.2	Insitu upgrade - tap (20 households per tap)	125	Capita	5	0.060		37.50
2	Serviced Site						
2.1	Standpipe	581	Unit	5	0.025		72.63
2.2	Prefabricated toilet	581	Unit	5	0.09		261.45
3	Single Residential	1321	Erf	100	0.45		594.45
4	Apartments	1195	Unit		0.30		358.50
5	Mixed Use Residential	664	Unit		0.30		199.20
6	Mixed Use Commercial	9,458.58	m²	GLA		0.65	61.48
7	Educational Facility						
7.1	Building only	5,830.38	m²	GLA		0.60	34.98
7.2	Grounds	5.83	ha		12.00	-	69.96
8	Community Facility	6,624.90	m²	GLA		0.40	26.50
9	Public Transport facilities	5,423.00	m²	GLA		0.30	16.27
						Subtotal 1	**1,795**
						Plus 15% losses	269
						Subtotal 2	**2,065**

Engineering background and context:

Due to the services capacity required by this development, various infrastructure upgrades are triggered.

The approval conditions listed herewith identifies the external upgrades triggered by the entire Northern Extension development and identifies at which development thresholds these upgrades must be completed. Some of these upgrades are triggered upfront (i.e. before any of the phases can be implemented), and it is therefore important that the required budget approvals are secured to fund these items.

It is further understood that this development will be rolled out in a phased approach. For each of the phases, a Subdivision and/or Site Development Plan - "SDP" application must be submitted, to identify which link and internal services are triggered by each specific phase. Such an application should therefore also include an Engineering Services Report and Traffic Impact Study.

Azania informal settlement (Portions 1-8 on subdivision plan).

The bulk upgrades identified below will not be applicable for the in-situ formalization of the informal settlement. The impact of this settlement on the engineering services has already been absorbed in the infrastructure networks, and it is not foreseen that the formalization thereof will have a significant additional impact on the bulk services. When a development

application or an engineering services approval application is received for this area, the minimum requirements in terms of bulk service upgrades (if any), link and internal services, will be identified and will have to be implemented as part of the project.

Cost Estimates

The cost estimates below include construction costs and professional fees and exclude VAT. It must be noted that these are high-level cost estimates based on conceptual infrastructure layouts. These estimates must be refined as the project progresses through the various design stages.

In consideration of provisions related to Civil Engineering Services, the application is supported, subject to the following conditions:

Specific Conditions: These conditions must be complied with prior to subdivision clearance.

Where subdivision clearance is not applicable, these conditions must be complied with before the approval of a building plan or an occupation certificate – whichever is applicable.

1. Water

1.1 The following external, bulk upgrades must be installed to accommodate any development. See **Annexure: Water**.

	Item	Estimate
1.1.1	Augmentation of bulk supply from Skilpadvlei reservoir (Under Construction)	
1.1.2	10 Mega-litre Kayamandi Upper Reservoir (SSW.B31) (Under Construction)	
1.1.3	3145m x 450mmØ pipe (SSW.B30)	R25m
1.1.4	150 l/s Pumpstation (SSW.B23)	R12m
	Total (ex VAT)	***R37m***

1.2 For each of the individual development phases, the link pipelines and any associated infrastructure will have to be identified at SDP stage and constructed in order to connect such phase to the reservoir and external water network.

2. Sewer

2.1 The following external, bulk upgrades must be installed to accommodate any development. See **Annexure: Sewer**.

	Item	Estimate
2.1.1	760 m x 600 mm Ø upgrade existing gravity (SSS 1.2)	R8m
2.1.2	Upgrade existing flow diversion (SSS 1.4)	R0.5m
2.1.3	185 m x 600 mm Ø upgrade existing gravity (SSS 1.5)	R2.5m
2.1.4	Upgrade existing flow diversion (SSS 1.6)	R0.5m
2.1.5	450 m x 600 mm Ø upgrade existing gravity (SSS 1.7)	R5m
	Total (ex VAT)	***R16.5m***

2.2 For each of the individual development phases, the link pipelines and any associated infrastructure will have to be identified at SDP stage and constructed in order to connect such phase to the external sewer network.

3. Roads

3.1 The following external, bulk upgrades must be installed prior to, or in parallel with the first phase of the development. See **Annexure: Roads**:

Ref Number on "Annexure Roads"	Description	Estimated cost (ex VAT)
1A	R304 dualling between Newinbosch Access and R44	R 89 m
1A.1	R304 / Sokuqala Street intersection upgrade	
1A.2	R304 / Masitandane Road intersection	

	upgrade	
1A.3	Bridge dualling	R 92 m
Total		**R 181 m**

The reason why these upgrades are regarded as critical and must be upgraded before any more trips are added to the road network, is because it is needed to alleviate existing congestion on the R304 and it is required to accommodate the existing background traffic as well as the additional traffic from the new- and ongoing developments in the area. In other words, without these upgrades, the congestion on the R304 will worsen when the development traffic is added to the network.

3.2 The following upgrades must be installed when triggered. The triggers for these upgrades are listed below, and are based on the anticipated phasing of the development. Since the phasing might change, the triggers will be revisited when the SDPs for each of the phases are submitted for approval. Each SDP application must thus be accompanied by and updated TIA – analyzing the impact of that phase in light of the prevailing traffic conditions at the time, and recommending which upgrade items are triggered.

Civil LU 2645: Farm 182 &183 Stellenbosch (LU-16553 TP592-2023)

Costs include professional fees and excludes VAT. Refer to **Annexure Phasing** for an illustration of the phases below.

	ROADS	DEVELOPMENT PHASE TRIGGER	TRIP GENERATION TRIGGER (CUMULATIVE TRIPS)	ESTIMATED COST (ex VAT)
1.2.1	2A - R304 dualling between the Welgevonden Boulevard and Newinbosch intersection (2A)	Portion 2 (Phases 1, 2, 10 and 6)	313 AM Peak Hour Trips or 230 PM Peak Hour Trips	R 19 m
1.2.2	3A - Extend R304 dualling beyond Welgevonden Boulevard northwards . The cost estimate is based on extending the dualling up until the R304 and Bottelary Road. 3A - Configuration change of R304 and Newinbosch intersection. 3A - Consider providing link to Welgevonden Boulevard. The cost of this link is not included.	Portion 3 (Phases 1, 2, 10, 6 and 7)	479 AM Peak Hour Trips or 397 PM Peak Hour Trips	R 124 m
1.2.3	5A - Construct the first new road link between the Northern Extension development and Kayamandi (one of the 2 links indicated). This entails a stream crossing and will require a bridge.	Portion 5 (Phases 1, 2, 10, 6, 7, 5, 8 and 3)	736 AM Peak Hour Trips or 625 PM Peak Hour Trips	R24 m
1.2.4	6A - Construct the second new road link between the Northern Extension development and Kayamandi. This entails a stream crossing and will require a bridge. 6A - Also at this point, the implementation of the greater road network plan, in particular the Western Bypass Road, will be required to accommodate the bulk demand travelling along the R304. The cost is not included for the Western Bypass.	Portion 6 (Phases 1, 2, 10, 6, 7, 5, 8, 3, 9 and 11)	761 AM Peak Hour Trips or 650 PM Peak Hour Trips	R 24 m

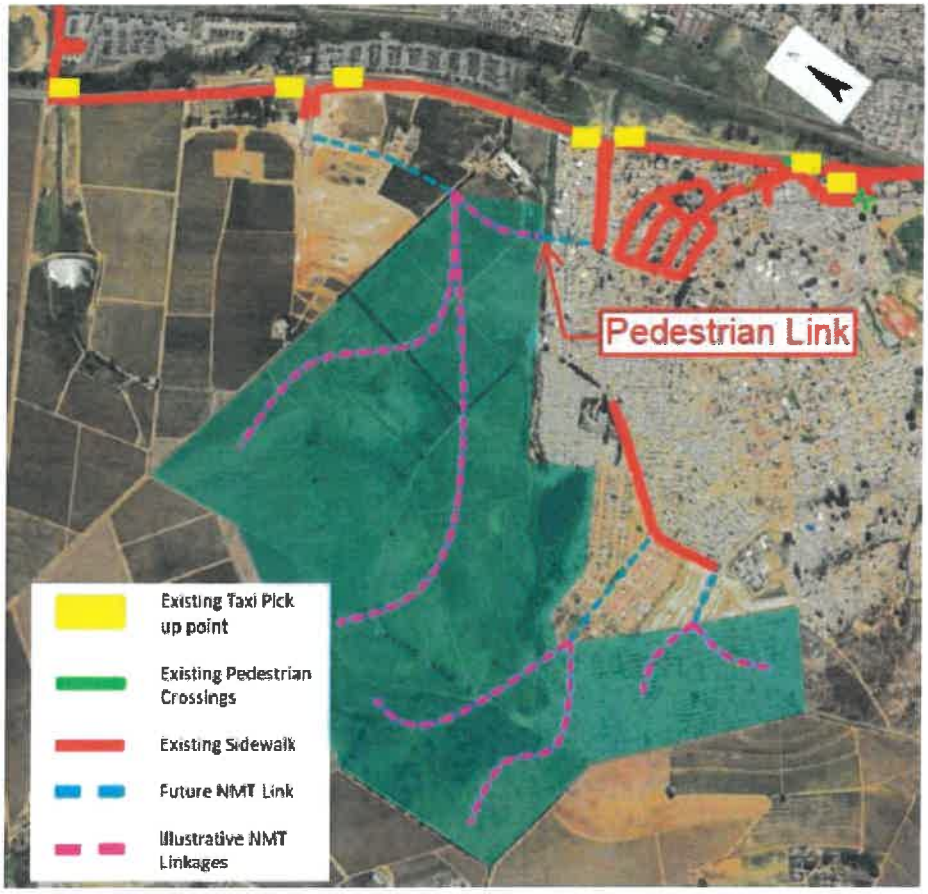
3.3 The phasing of the development is shown below and must be considered in conjunction with the above listed road upgrades. Should the phasing sequence change, the trip generation can be used to identify when and upgrade is triggered.

Phases	Portion	Development Portion	Assumed Implementation Year
10, 2 and 1	1	In-situ upgrade of existing Azania informal settlement Educational Facility Major Utilities	2029
6	2	Single Residential Units	2030
7	3	Single Residential Units	2032
5	4	Commercial and Apartments	2033
8 and 3	5	Single Residential Units Apartments	2035
9 and 11	6	Community Facility Public Transport Interchange	2036
12	7	Single Residential Units	2037
4	8	Educational Facility	2038

4. Non-motorized Transport (NMT)

4.1 Each SDP for the individual phases must include a detailed NMT plan that will ensure that the NMT infrastructure adequately addresses the needs of the residents, is compliant with the norms and standards applicable to such infrastructure and is aligned with the Municipality's proposed NMT network for the area as outlined in the NMT Masterplan. Any NMT items identified for implementation during the SDP approval phase, must then be completed prior to clearance of that phase.

One item that is of high importance is the construction of a **pedestrian link between Kayamandi and the Northern Extension,** across the Watergang Stream. This link is important especially for safe pedestrian movement to the schools and other public amenities planned in the Northern Extension. The construction of this bridge must form part of the implementation of the first phase of the Northern Extension. More details must be provided with the SDP application for the first phase.



5. Parking departure for row housing

5.1 The parking departure of 1 bay per dwelling in lieu of 2 bays is linked to row housing units. Row housing is not supported because it tends to create areas from which stormwater cannot freely drain. Semi-detached dwellings should rather be considered.

6. Stormwater

6.1 The difference between the pre- and post-development run-off must be detained on site. A Stormwater Management Plan (SWMP) and stormwater design drawings must be submitted for approval for each phase of the development. All detention ponds, inlet and outlet structures, erosion protection, the connections to the existing systems, and safety guardrails (if required), identified for each phase, must then be completed prior to transfer of the first property, or where only a building plan is submitted, prior to the occupation certificate of such building.

6.2 The 1:50 and 1:100 floodlines must be clearly indicated on all future development applications and/or building plans. No development will be allowed below the 1:100-year floodline.

7. Installation of Engineering Services

7.1 Over and above the bulk and external upgrades identified above, each newly created erf (or each building where subdivision is not applicable) must also be fully serviced ito water- and sewer connections, stormwater drainage and roads/access points and all internal and link engineering services for the development must be installed by the developer and at his cost.

7.2 Detail engineering drawings must be submitted for approval prior to the commencement of construction. The approved drawings and municipal approval letter issued by the Municipality will constitute the "engineering services agreement" for the provision and installation of services between the municipality and the landowner / developer.

8. As – Builts

8.1 Upon completion, a complete set of as-built drawings, as well as the asset verification information (in the case of municipal services) be submitted in a format

acceptable to the Municipality. These drawings must be signed by a professionally registered engineer.

General Conditions

9. The provision and installation of the services for the development must comply with the Design Guidelines and Minimum Standards for Civil Engineering Services as published on the municipality's website and as amended from time-to-time.
10. According to the information available at this stage, the internal services are **public**. Therefore, all internal services will be maintained by the **Municipality**. However, the ownership status will be confirmed with each SDP approval – any private developments will be responsible for the maintenance of their own services.
11. The applicability of Development Charges will be evaluated when the applications for the individual phases are received.

Tyrone King Pr Tech Eng
MANAGER: DEVELOPMENT (INFRASTRUCTURE SERVICES)

Myra Francis
SENIOR MANAGER: DEVELOPMENT SERVICES, ASSET MANAGEMENT AND SYSTEMS & PROJECT MANAGEMENT UNIT (PMU)

Shane Chandaka
DIRECTOR: INFRASTRUCTURE SERVICES

W:\2.0 DEVELOPMENT\01 Land Use applications\2645 (TK) Farm 182 &183 Stellenbosch (LU-16553 TP592-2023) Northern Extension\2645 Farm 182 &183 Stellenbosch (LU-16553 TP592-2023)_6 (approved - alignment with PRE conditions).doc



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REV	DATE	REVISION DETAILS	APPROVED
A	20/06/2024	ISSUED FOR INFORMATION	C. VAN DER WALT

SCALE 1:7000 | SIZE A1

DRAWN E. JORDAAN

DESIGNED E. JORDAAN

REVIEWED C. VAN DER WALT

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED DATE

C. VAN DER WALT ECSA 200670271

PROJECT NORTHERN EXTENSION

TITLE PHASE 1A: BULK WATER UPGRADES

DRAWING No. PROJECT 1001438 - AREA 0000 - TYPE DRG - DISC CC - NUMBER 100 - REV A



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REV	DATE	REVISION DETAILS	APPROVED
A	20/06/2024	ISSUED FOR INFORMATION	C. VAN DER WALT

SCALE	1:5000
SIZE	A1
DRAWN	E. JORDAAN
DESIGNED	E. JORDAAN
REVIEWED	C. VAN DER WALT

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
C. VAN DER WALT ECSA 20070271

PROJECT	NORTHERN EXTENSION
TITLE	PHASE 1A: BULK SEWER UPGRADES
DRAWING No	1001438 – 0000 – DRG – CC – 102 – A

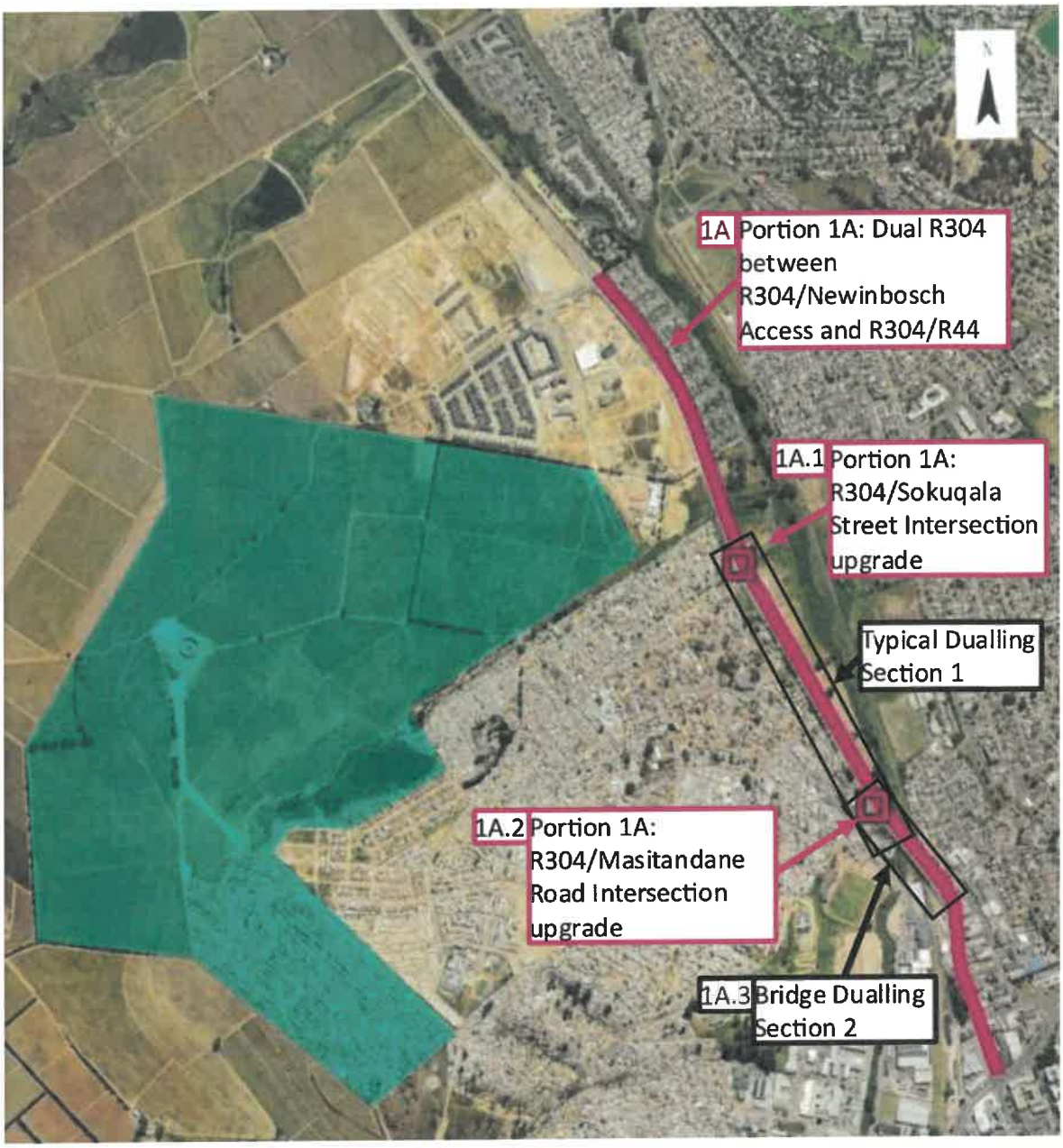


Figure 1: Portion 1A Required Road Infrastructure

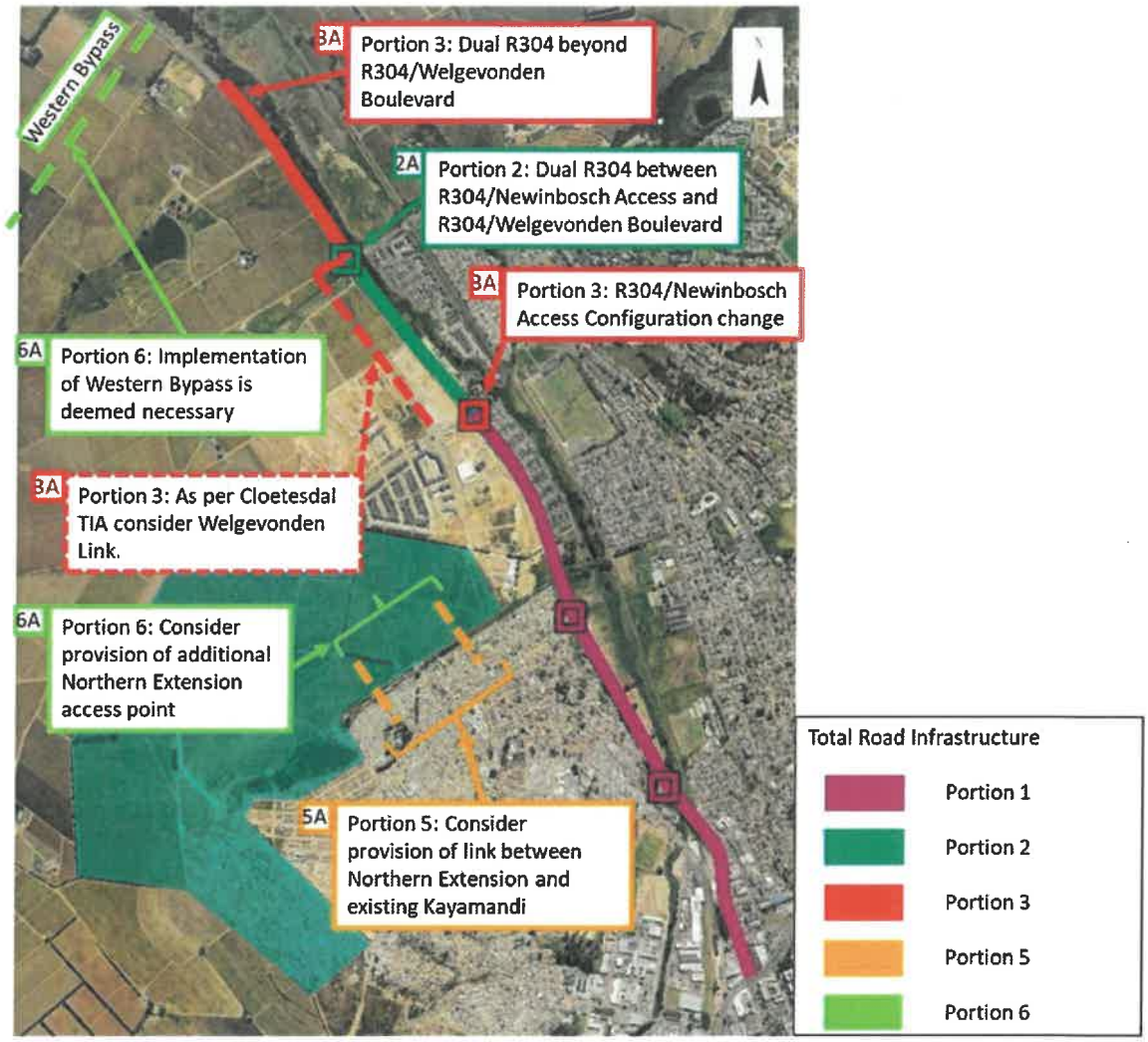


Figure 2: Total Required Road Infrastructure

Appendix E

Basic Road Infrastructure Concepts

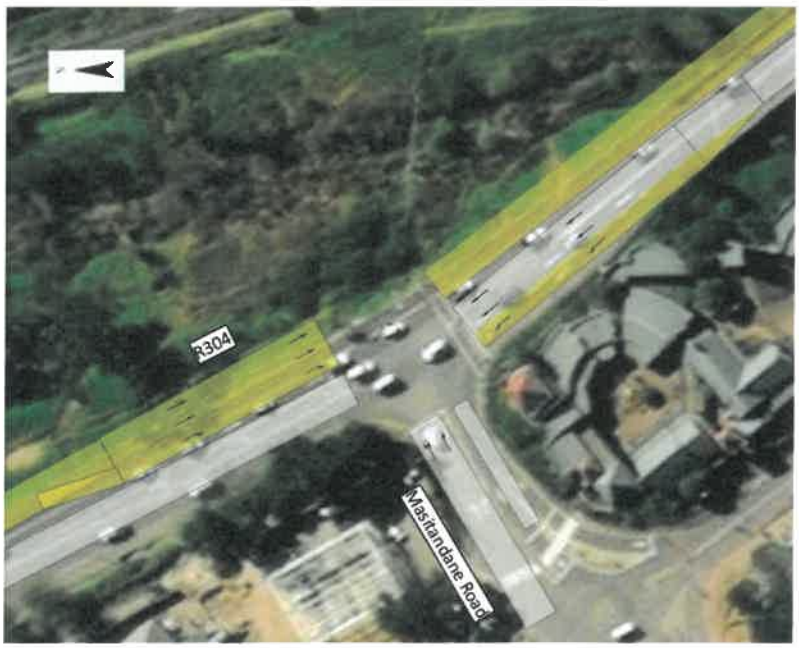
Upgrade Trigger (Development Trips)	Description	Basic Concepts
1A - R304 Dualling between Newinbosch Access and R44		
0 AM Peak Hour trips. **0 PM Peak Hour trips**	It is proposed to dual the R304 between the existing R304/Newinbosch Access and R304 / R44 (Adam Tas Road) intersections to alleviate congestion on the R304 and to accommodate the growth in background traffic. This will provide 2 lanes per direction on the R304. This in turn will result in upgrades required for both the R304/Sokuqala Street and R304/Masitandane Road intersections, indicated as upgrade 1A.1 and 1A.2 respectively on Figure 1. Additionally, the bridge near the R304/Masitandane Road intersection must be widened.	1A.1: Upgrade of R304 / Sokuqala Street  1A.2: Upgrade of R304 / Masitandane Road 
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 180,102,878.00		



Figure 3:Typical Dualling Section 1 of R304

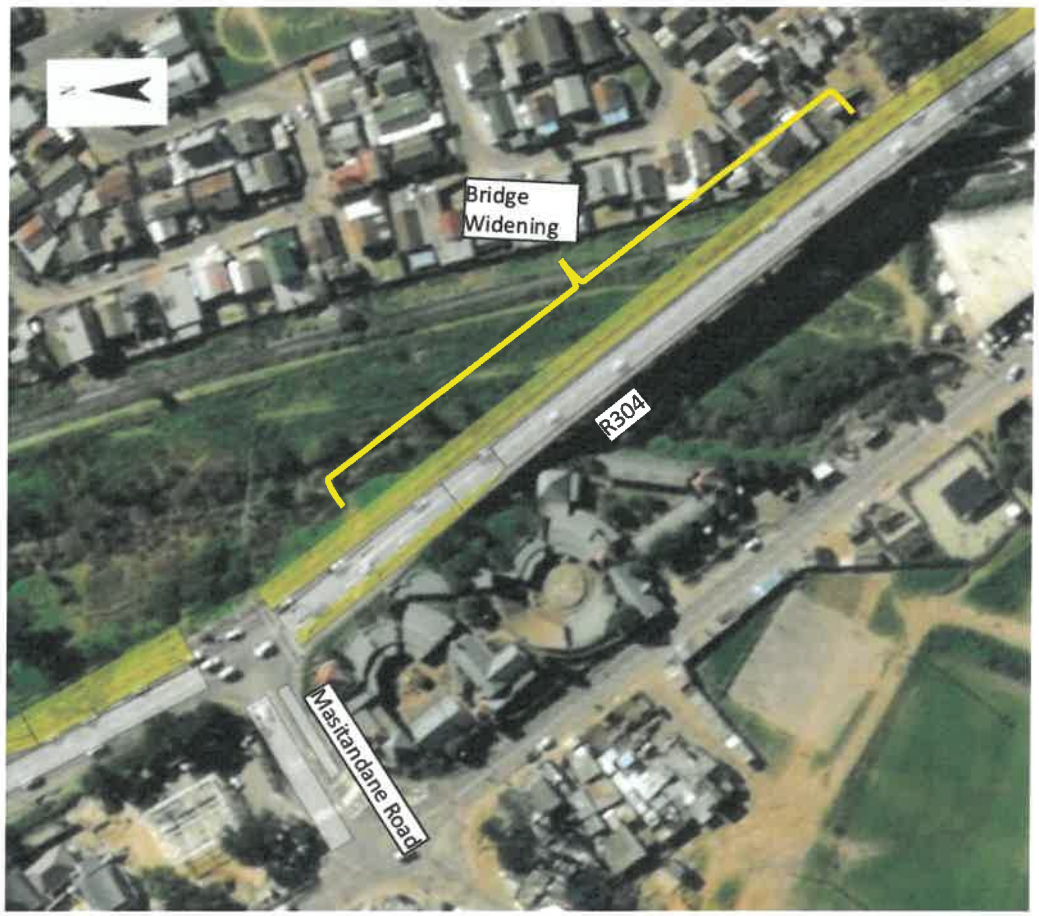
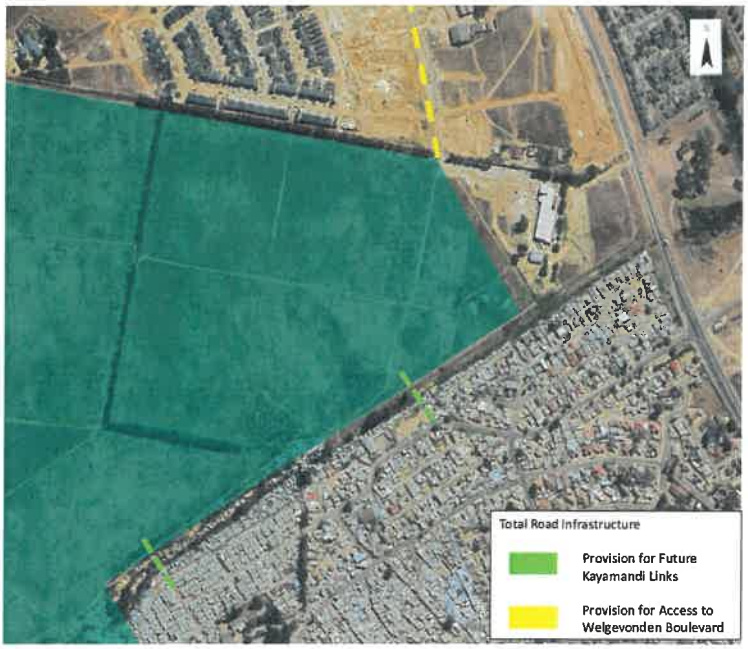


Figure 4: Bridge Dualling Section 2 of R304 (1A.3)

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 2 Infrastructure Upgrades		
2A - R304 Dualling between Welgevonden Boulevard and Newinbosch Access		
313 AM Peak Hour trips. **230 PM Peak Hour trips**	It is proposed to completely dual the R304 between the R304/Welgevonden Boulevard and R304/Newinbosch Access intersections.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 18,986,605.00		
Portion 3 Infrastructure Upgrades		
3A - R304 Extended Dualling beyond Welgevonden Boulevard		
479 AM Peak Hour trips. **397 PM Peak Hour trips**	It is proposed to extend the dualling of the R304 beyond the Welgevonden Boulevard and R304 intersection for the traffic flowing out of Stellenbosch, however the length of the extension is uncertain. The extension of the dualling may have to be to the next intersection, which is the R304/Bottelary Road. Or with the link with potential Western Bypass, which may link up with the R304, approximately 800 m from R304/Welgevonden Boulevard intersection. The costing for this upgrade was based on the dualling extending to the R304 / Bottelary Road intersection.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 124,046,513.00*		

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 5 Infrastructure Upgrades		
5A – Consideration of an Additional Access Point		
736 AM Peak Hour trips. **625 PM Peak Hour trips**	At this point of the development an additional access will be required to alleviate traffic on the existing R304/Newinbosch Access intersection. The layout of the development provides provisions for future links. Consideration should be given to utilising one of the links for providing an additional access point for the Northern Extension to the existing Kayamandi.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 23 407 846.00		
Portion 6 Infrastructure Upgrades		
6A – Consideration of second Additional Access Point and Greater Network Plan		
761 AM Peak Hour trips. **650 PM Peak Hour trips**	At this point the greater network plan will be required to accommodate the bulk demand travelling along the R304. Future plans like the Western Bypass needs to be considered at this point in time. Furthermore, consideration can also be given in terms of providing another access point for the Northern Extension. The layout plan provides multiple provisions for future links that provide additional access. The cost of the Western Bypass is not included.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 23 407 846.00		

2

Charlene Williams

From: Nicole Katts
Sent: Thursday, 25 January 2024 09:13
To: Charlene Williams
Subject: FW: LAND USE APPLICATION FOR COMMENT: FARM 182 & 183, STELLENBOSCH DIVISION - LU/16553 (TP592/2023)

STELLENBOSCH MUNICIPALITY
PLANNING AND DEVELOPMENT
25 JAN 2024
RECEIVED

From: Martin Slabber <Martin.Slabber@stellenbosch.gov.za>
Sent: Thursday, 25 January 2024 09:11
To: Nicole Katts <Nicole.Katts@stellenbosch.gov.za>; Charne Williams <Charne.Williams@stellenbosch.gov.za>; Tyrone King <Tyrone.King@stellenbosch.gov.za>; Ilze Fillies <Ilze.Fillies@stellenbosch.gov.za>; Bradley Williams <Bradley.Williams@stellenbosch.gov.za>; Bernabe De La Bat <Bernabe.DeLaBat@stellenbosch.gov.za>; Barbara-Ann Henning <Barbara-Ann.Henning@stellenbosch.gov.za>; Viola Anthony <Viola.Anthony@stellenbosch.gov.za>; Ayanda Tomose <Ayanda.Tomose@stellenbosch.gov.za>
Cc: Carli Van Wyk <Carli.VanWyk@stellenbosch.gov.za>; Genevieve Zongolo <Genevieve.Zongolo@stellenbosch.gov.za>
Subject: RE: LAND USE APPLICATION FOR COMMENT: FARM 182 & 183, STELLENBOSCH DIVISION - LU/16553 (TP592/2023)

GENERAL: NONE
CONDITIONS: If any electrical services must move, remove, change or upgrade – apply via recoverable cost application, for applicants cost.
Subject to SANS 10142,204-1-2008, energy savings and efficiency implementation and Municipal bylaws – Only existing electrical connection is available.

1. Installation of 10A electrical control units 2. Solar water heating/heat pump installation
3. Energy efficient lightning 4. Roof insulation 5. Cooking with gas fired appliances 6. Control air condition equipment with energy saving devices. 7. Preheat at least 50% of hot water with alternative energy savings devices.

TX

FILE NR: F 182 & 183 S
SCAN NR:
COLLABORATOR NR: 762313

Groete:
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Sin. Supt. Dwarsrivier Elect.
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ANNEXURE G

Western Cape Government

Department of Infrastructure
Vanessa Stoffels
Chief Directorate: Road Planning
Vanessa.Stoffels@westerncape.gov.za | Tel: 021 483 4669

Ref: DOI/CFS/RN/LU/REZ/SUB -25/492 (Application No: 2026-01-0014)

Guillaume Nel Environmental Consultants
PO Box 2632
PAARL
7620

Attention: Ms E Visagie

Dear Madam

NOTICE OF IN PROCESS COMMENTING PUBLIC PARTICIPATION PERIOD: THE PROPOSED MIXED-USE DEVELOPMENT ON VARIOUS FARM PORTIONS IN STELLENBOSCH, KNOWN AS STELLENBOSCH NORTHERN EXTENSION

1. Reference is made to this Branch's previous correspondence, App 2026-01-0014 dated 19 January 2026, regarding the proposed Kayamandi Northern Extension and the Traffic Impact Assessment (TIA) prepared by Zutari (Pty) Ltd in support of the Environmental Authorisation application.

2. Reference is further made to the meeting held on 12 March 2026 between officials of the Western Cape Government Transport Infrastructure Branch, Stellenbosch Municipality, and the appointed professional team for the project, during which the revised access strategy and development phasing were discussed.

3. This Branch notes that the revised TIA dated 23 March 2026 no longer promotes a direct additional signalised access onto Main Road 174 (R304) as an immediate access solution. Instead, the revised assessment proposes to accommodate development traffic through the existing Newinbosch access, supplemented by additional internal link roads across the river connecting the development to the existing Kayamandi road network, potential future linkage to the Welgevonden Boulevard extension, and longer-term network interventions such as the proposed Western Bypass.

4. The Branch notes that the trip generation is significantly influenced by the assumed public transport modal split, which has been applied uniformly across the development. While this assumption is acknowledged, the derivation of the associated public transport vehicle trips is not fully substantiated, and the allocation of these trips to the road network has not been explicitly demonstrated. In this regard, the public transport component should be critically reviewed in future revisions of the Traffic Impact Assessment to ensure that the assigned road-based traffic demand is robust.

5. All references to an additional link to the R304 whether in the text or on plans are deemed to be a mistake. An example of this is that the Northern Extension Phasing Plan (Drawing number: 1001438-ZUT-LL-DRG-TP-NE 000-00-REV1) shows a future link road to the R304.

6. According to the TIA, the following improvements are required:

6.1. In the initial phases (up to approximately 2030), the primary intervention comprises the implementation of the 1A upgrades, which include the dualling of the R304 between the Newinbosch access and the R44/R304 intersection. These upgrades are considered sufficient to accommodate traffic associated with the early stages of development, including Portions 1 and 2 of the Kayamandi Northern Extension.

6.2. As development intensifies (circa 2030–2032), additional capacity enhancements are required through the A2 upgrades, specifically the further dualling of the R304 between the Newinbosch access and Welgevonden Boulevard. This phase ensures continuity of capacity along the corridor as traffic demand increases.

6.3. Beyond 2032, with the introduction of higher development intensities including Portion 3 of the Kayamandi Northern Extension, the A3 upgrades become necessary. These include layout modifications to the R304/Newinbosch access intersection, implementation of recommendations to complete the link to the R304/Welgevonden Boulevard intersection, and additional turning capacity improvements along the corridor.

6.4. In the subsequent phases (circa 2035), the A5 upgrades are introduced, requiring the provision of additional access to the Kayamandi Northern Extension to improve network permeability and distribute traffic more effectively.

6.5. At full development build-out (from approximately 2036 onwards), the A6 upgrades are required. These include the implementation of the Western Bypass, which becomes critical to accommodate long-term traffic demand, as well as further consideration of additional access points to the Kayamandi Northern Extension.

6.6. In summary, the upgrade strategy follows a logical progression from corridor capacity improvements (dualling of the R304), to intersection and network optimisation measures, and ultimately to the introduction of strategic network links such as the Western Bypass to support long-term growth.

6.7. The table below sets out the improvements (as extracted from the TIA):

Scenario	Traffic	Infrastructure	Reference
2023			
0	2023 Traffic	None	
2029			

1 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A Upgrades:• Dual R304 between R304 / Newinbosch intersection and the R44 / R304 intersection	Table 20 and Figure 28
1 (b)	As per Scenario 1(a) + Kayamandi Northern Extension Portion 1	1A Upgrades	Table 20
2030			
2 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A Upgrades	Table 20
2 (b)	As per Scenario 2(a) + Kayamandi Northern Extension Portion 2	1A Upgrades +A2 Upgrades:• Dualing of the R304 between the Newinbosch access and Welgevonden Boulevard	Table 26
2032			
3 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A and A2 Upgrades	Table 26
3 (b)	As per Scenario 3(a) + Kayamandi Northern Extension Portion 3	1A and A2 Upgrades +A3 Upgrades:• Layout changes to the R304 and Newinbosch Access intersection• Consider the recommendations made by the Cloetesal TIA for completing the link to the R304 / Welgevonden Boulevard intersection• The additional right turn movement was analysed in this TIA• Dual R304 beyond the R304 / Welgevonden Boulevard	Table 31
2033			
4 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2 and A3 Upgrades	Table 31
4 (b)	As per Scenario 4(a) + Kayamandi Northern Extension Portion 4	1A, A2 and A3 Upgrades	Table 31
2035			

5 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2 and A3 Upgrades	Table 31
5 (b)	As per Scenario 5(a) + Kayamandi Northern Extension Portion 5	1A, A2 and A3 Upgrades +A5 Upgrades:• Provide additional access to the Kayamandi Northern Extension	Table 31Section 13.11.1
2036			
6 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3 and A5 Upgrades	Table 31
6 (b)	As per Scenario 6(a) + Kayamandi Northern Extension Portion 6	1A, A2, A3 and A5 Upgrades +A6 Upgrades:• The implementation of the Western Bypass will be required• Additional access to the Kayamandi Northern Extension be considered	Table 31Section 13.11.1Section 13.13.1
2037			
7 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3, A5 and A6 Upgrades	Table 31
7 (b)	As per Scenario 7(a) + Kayamandi Northern Extension Portion 7	1A, A2, A3, A5 and A6 Upgrades	Table 31Section 13.11.1Section 13.13.1
2038			
8 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3, A5 and A6 Upgrades	Table 31
8 (b)	As per Scenario 8(a) + Kayamandi Northern Extension Portion 8	1A, A2, A3, A5 and A6 Upgrades	Table 31Section 13.11.1Section 13.13.1

6.8. The TIA recommends that further updates of the TIA are required at the following stages:

Phases	Portion	Development Portion	Assumed Implementation Year	TIA Revision
10, 2 and 1	1	In-situ upgrade of existing Azania informal settlement Educational Facility Major Utilities	2029	Current TIA
6	2	Single Residential Units	2030	
7	3	Single Residential Units	2032	Required
5	4	Commercial and Apartments	2033	
8 and 3	5	Single Residential Units Apartments	2035	Required
9 and 11	6	Community Facility Public Transport Interchange	2036	Potentially
12	7	Single Residential Units	2037	
4	8	Educational Facility	2038	Required

6.9. It is noted that the current environmental impact assessment process exclude the two bridges over the river to form the internal connections to Kayamandi and the northern extension, as well as the proposed road link between Newinbosch's access road and the Welgevonden Boulevard extension. It is imperative that the EIA process starts well in advance of when the infrastructure is required.

6.10. The dualling of the R304 is required prior to this development being implemented. The TIA motivates that the dualling is as a result of background traffic and latent developments. However, the fact is that the dualling is required prior to the development starting.

6.11. Mention is also made of the Western Bypass towards the latter stages of the project as being a network solution which is required in the longer term. According to the traffic modelling, the reduction in through traffic on the R304 of between 40% and 50%. the link between Adam Tas Road (R310) and Techno Avenue is currently in development approval phase and earmarked for implementation in the short term. The link between Adam Tas Road (R310) and Koelenhof Road (R304) is currently in the planning phase and can be considered for implementation in the medium to long term timeframe (7 – 12 years). These sections of the Western Bypass are considered key for the future developments, not only the Northern Extension, but also for Stellenbosch as a whole.

7. Based on the revised development proposal and the information presented the Branch offers no objection, from a transport perspective, to the granting of Environmental authorisation for the proposed development, subject to the following conditions:

7.1. The implementation of the required road infrastructure upgrades (1A to A6), as identified in the TIA, shall be undertaken in accordance with the phasing of development and to the satisfaction of the Branch.

7.2. The dualling of the R304 between the Newinbosch access and the R44/R304 intersection shall be implemented prior to the commencement of the development.

7.3. Further updates of the Traffic Impact Assessment shall be undertaken at appropriate development trigger points (See point 6.8 above), to the satisfaction of the Branch. The public transport component should be critically reviewed in future revisions of the Traffic Impact Assessment to ensure that the assigned road-based traffic demand is robust.

7.4. The environmental impact assessment processes for the proposed river crossings and the road link between the Newinbosch access and Welgevonden Boulevard shall be initiated timeously by the municipality or developer to ensure that the required infrastructure can be implemented when needed.

7.5. The provision of additional access to the Kayamandi Northern Extension, as identified in the TIA, shall be implemented when warranted and to the satisfaction of this Branch.

7.6. The implementation of the Western Bypass shall be considered a critical medium to long-term requirement, and the relevant sections, including the links between Adam Tas Road (R310) and Techno Avenue, and between Adam Tas Road (R310) and Koelenhof Road (R304), shall be planned and implemented by the municipality in line with the identified development timeframes.

7.7. The Branch has not made provision for funding of the required road infrastructure upgrades, and all associated costs shall be for the account of the Municipality and/or the developer.

Yours Sincerely

DD FORTUIN
***For* DEPUTY DIRECTOR-GENERAL: TRANSPORT INFRASTRUCTURE BRANCH**
DATE: 25 MARCH 2026

ENDORSEMENTS

1. Consultant: Guillaume Nel Environmental Consultants

   Attention: Ms E Visagie (e-mail: eg@gnec.co.za)

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Western Cape Government

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LandUse Management
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OUR REFERENCE : 20/9/2/5/6/531
YOUR REFERENCE : 60607470
DEA&DP REFERENCE : 16/3/3/1/B4/22/1070/20
ENQUIRIES : Cor van der Walt/Fadwa Mohammed

AECOM
Email: Sisipho.Matsoso@aecom.com

Att: Sisipho Matsoso

DRAFT ENVIRONMENTAL IMPACT REPORT

KAYAMANDI NORTHERN EXTENSION WATER SUPPLY PIPELINE: DIVISION STELLENBOSCH

FARM NO 181

FARM NO 182

PORTION 1 OF THE FARM NO 182

FARM NO 183

PORTION 5 OF THE FARM NO 183

PORTION 23 OF THE FARM NO 183

PORTION 36 OF THE FARM NO 183

PORTION 60 OF THE FARM NO 183

Your application of November 2025 has reference.

The Stellenbosch Local Municipality propose the installation of a Medium Voltage (MV) Electrical Supply Cable to support the Kayamandi Northern Extension Bulk Water Supply Pipeline and Reservoir project. AECOM SA (Pty) Ltd. (AECOM) has been appointed to manage the Environmental Authorisation (EA) Amendment application process.

The Western Cape Department of Agriculture has no objection to the proposed application.

Please note:

- Kindly quote the above-mentioned reference number in any future correspondence in respect of the application.

- The Department reserves the right to revise initial comments and request further information based on the information received.

Yours sincerely

Mr. CJ van der Walt
LANDUSE MANAGER: LANDUSE MANAGEMENT
2026-04-01

Copies:
Department of Environmental Affairs & Development Planning
1 Dorp Street
Cape Town
8000

Stellenbosch Municipality
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STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE H

ZUTARI
IMPACT. ENGINEERED.

Project report

Traffic Impact Assessment for the Kayamandi Northern Extension

Stellenbosch Municipality: Department of Housing Development

Submission date: 2025/12/11

Document number: 1001438-REP-KR-00002
Revision: 3

Document control record

Document prepared by:

Zutari (Pty) Ltd

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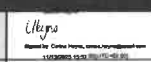
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Document Control						
Project name		Traffic Impact Assessment for the Kayamandi Northern Extension				
Document number		1001438-REP-KR-00002	**Project number**		1001438	
Client		Stellenbosch Municipality: Department of Housing Development				
Client contact		Shaun October	**Client reference**		Rudolf Schröder	
Rev	**Date**	**Revision details/status**	**Author**	**Reviewer**	**Verifier** (if required)	**Approver**
0	2023/11/30	Draft	Armandt van Straten / Carine Heyns	Yolandi Venter		Carine Heyns
1	2024/08/06	New development phases.	Armandt van Straten	Yolandi Venter		Carine Heyns
2	2025/08/11	New development phases.	Armandt van Straten	Yolandi Venter		Carine Heyns
3	2025/12/11	Wording Adjustment of future access.	Armandt van Straten	Yolandi Venter		Carine Heyns
Current revision		**3**				

Approval			
Author signature		Approver signature	
Name	Armandt van Straten	Name	Carine Heyns
Title	Traffic Engineer	Title	Professional Engineer

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Table 27: Sidra Results for Scenario 3 (b)

Table 28: R304 dualled beyond R304 / Welgevonden Boulevard intersection configuration

Table 29: Detail Analysis of R304 / Welgevoden Boulevard Scenario 3 (b) Future 2030 Total Traffic

Table 30: Sidra Results for Scenario 4 (a)

Table 31: Sidra Results for Scenario 4 (b)

Table 32: Sidra Results for Scenario 5 (a)

Table 33: Sidra Results for Scenario 5 (b)

Table 34: Detail Analysis of R304 / Newinbosch Access Scenario 5 (b) Future 2033 Total Traffic

Table 35: Additional Left turn R304 / Newinbosch Access intersection configuration

Table 36: Detail Analysis of R304 / Newinbosch Access Scenario 5 (b) Future 2033 Total Traffic with Mitigation Measure

Table 37: Sidra Results for Scenario 6 (a)

Table 38: Sidra Results for Scenario 6 (b)

Table 39: Sidra Results for Scenario 6 (b) with Mitigation Measures

Table 40: Sidra Results for Scenario 7 (a)

Table 41: Sidra Results for Scenario 7 (b)

Table 42: Sidra Results for Scenario 8 (a)

Table 43: Sidra Results for Scenario 8 (b)

Table 44: Peak hour link volumes (2035)

Table 45: Roadside Development Environment Characteristics

Table 46: Minimum spacing of signalised intersections along a Class 2 road (Source: AMG 2020)

Table 47: Summary of infrastructure required for Kayamandi Northern Extension

Table 48: Estimated Cost for Upgrading External Roads

1 List of Abbreviations and Definitions

AMG	Access Management Guidelines
AMP	Arterial Management Plan
MBT	Minibus Taxi
NMT	Non-motorised transport
PT	Public Transport
TIA	Traffic Impact Assessment

2 Introduction

Zutari (Pty) Ltd is currently appointed for the Stellenbosch Municipality Contract BSM 39/21: To Provide Professional Service Provider to Assemble a Multi-Disciplinary Team of Professionals to Undertake a Broad Conceptual Urban Design Framework for the Northern Extension, Stellenbosch, and to Obtain Town Planning and Development Right.

Stellenbosch Municipality has requested a conceptual urban design framework, town plans and development rights associated with the Northern Extension of Kayamandi, Stellenbosch. It is Stellenbosch Municipality's intention to rezone the project site for development purposes and release it to the market with specific conditions in a housing typology mix that provides feasible affordable housing opportunities in this expanding area.

A Traffic Impact Assessment (TIA) is required to inform the subsequent land use regulatory process as well as the formulation of eventual land release conditions. This TIA will examine the implications of trips generated by the proposed rezoning and residential development and the impact this will have on the adjacent road network. Furthermore, it will identify any necessary road network improvements that might be needed and will be submitted in the business case for rezoning.

2.1 Objectives

The primary purpose of this TIA is to examine the implications of trips generated by the implementation of the Kayamandi Northern Extension Development (hereafter referred to as the Development) and the impact this will have on the adjacent road network. This assessment will identify any necessary road network improvements that might be needed.

2.2 Reference Information

Several related reports have been prepared by other parties and will be referred to in this TIA. The reference reports are:

- Stellenbosch Spatial Development Framework, prepared by Stellenbosch Municipality (Approved by Council 11 November 2019)
- Cape Winelands District Integrated Transport Plan 2016 – 2021 Final Report, prepared by Cape Winelands District Municipality (dated May 2016)
- Stellenbosch Road Master Plan 2018 Update, prepared by Stellenbosch Municipality (dated 30 August 2019)
- B/SM 13/21-66.2: Review of the Stellenbosch Comprehensive Integrated Transport Plan, Stellenbosch CITP 2022 – 2026 – Final Draft 2, prepared by Aecom (dated 13 March 2023)
- Stellenbosch Northern Extension Status Quo Report, prepared by Zutari (submitted 26 November 2021)

- Access Management Guidelines (AMG), prepared by Western Cape Government Transport and Public Works (dated 2020)
- South African Trip Data Manual Version 1.01, prepared by Committee of Transport Officials (dated September 2013)
- South African Traffic Impact and Site Traffic Assessment Manual Version 1.0, prepared by Committee of Transport Officials (dated August 2012)
- South African Road Traffic Signs Manual (SARTSM) 3rd Edition Volume 3 Traffic Signal Design, prepared by National Department of Transport (dated May 2012)
- Application for Rezoning to Subdivisional Area of Remainder Farm 81 Portion 33, Stellenbosch: Update Traffic Impact Assessment, prepared by ICE Group (dated 3 July 2020)
- Arterial Management Plan, Main Road (MR) / (R304) between Klipheuwel and Stellenbosch, Western Cape, prepared by ITS Engineers (dated November 2012)

2.3 Site Location and Description

Kayamandi is a low-income residential area, located in the north-western part of Stellenbosch. Access into and out of Kayamandi is via the R304 (MR00174) and Adam Tas Street, or R44, (MR00027) both of which are Class 2, major arterial, roads. The major function of the R304 is to serve as a north/south (regional) route connecting Strand, Somerset West, Helderberg and Overstrand regions with the N1 and areas further north (Durbanville, Malmesbury, etc.).

The Stellenbosch Local Municipality has been growing at a relatively high rate, at 2.73% per year. Consequently, the need for housing has become a growing concern and the development is planned to address this issue to some extent.

The location of the development is indicated in Figure 1. It is approximately 140 hectares in extent and will extend Kayamandi northwards as well as upgrade the existing informal settlement located to the southwest of Kayamandi.

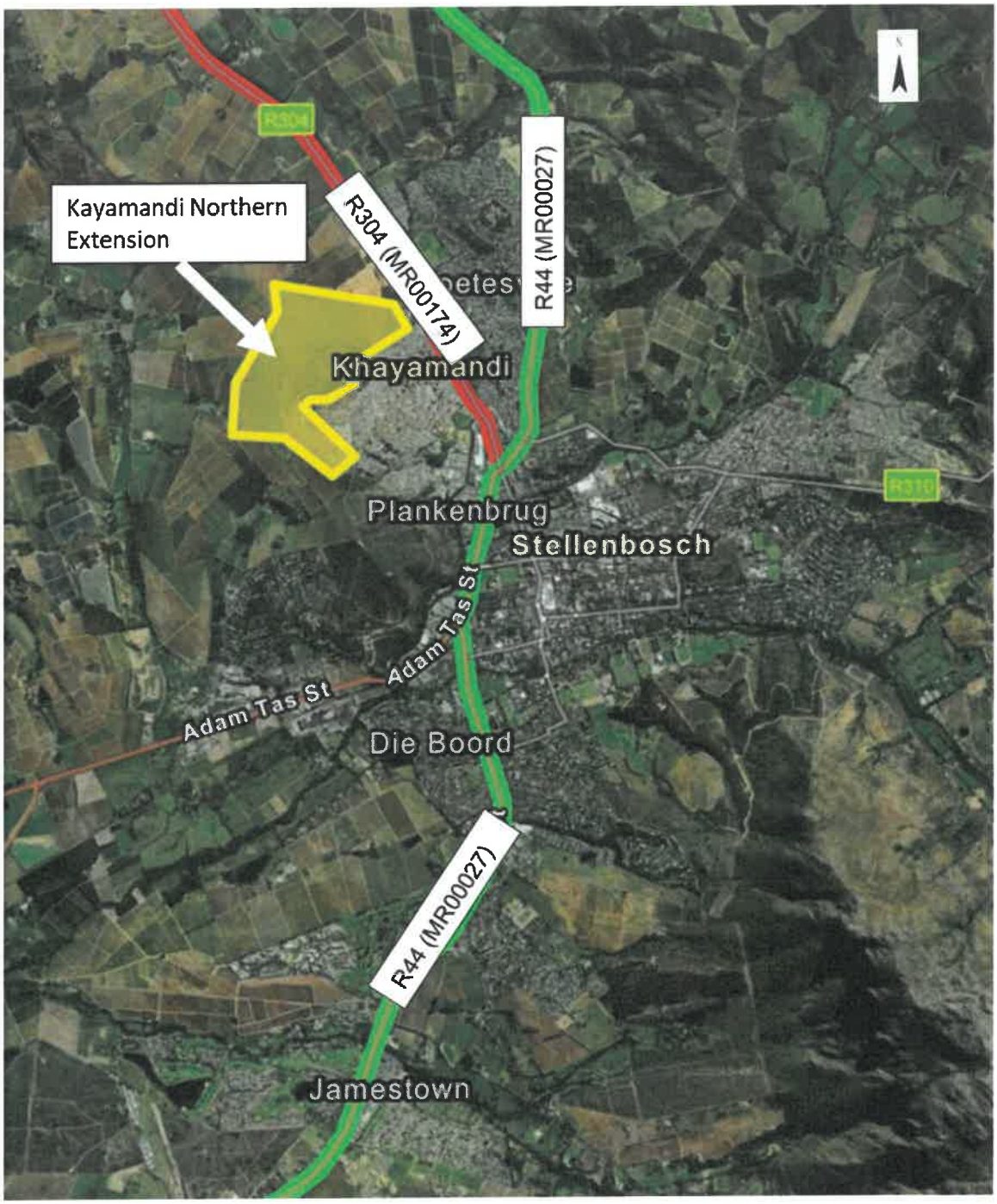


Figure 1: Kayamandi Northern Extension Location

2.4 Property Details

The development study area traverses' portions of Farm 183 and 182, as shown in Figure 2. It is located to the north of Kayamandi and towards the west of the R304. The property currently consists of undeveloped land and an informal settlement.

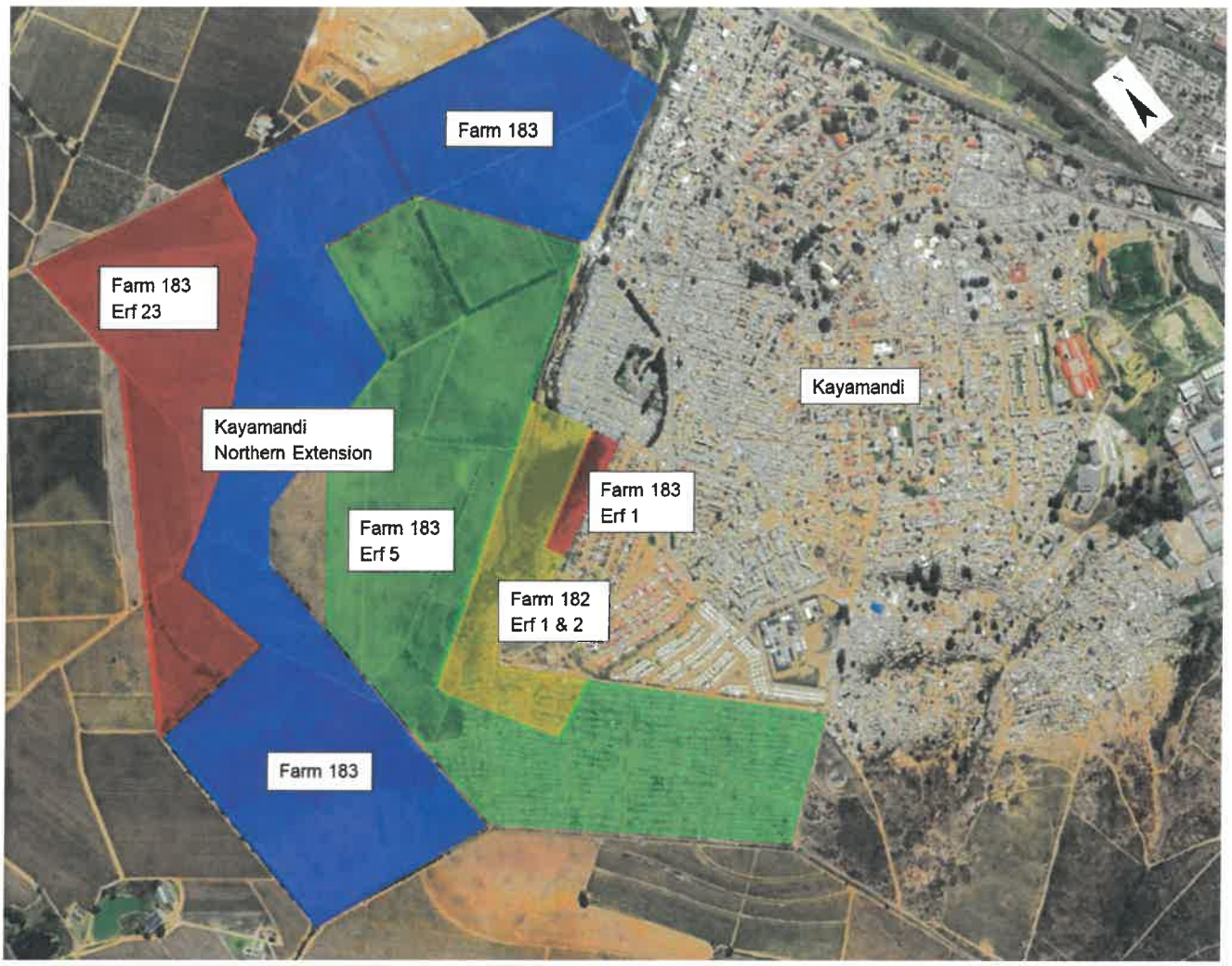


Figure 2: Locality of the Kayamandi Northern Extension

The areas shown in Figure 2, is currently zoned as an Industrial and Agricultural and Rural Zone and an application has been submitted to rezone the area to a Subdivisional Area Zone. In doing so these areas can be rezoned for the planned Development as follows:

- Less Formal Residential Zone
- Conventional Residential Zone
- Multi-Unit Residential Zone
- Mixed Use Zone
- Industrial Zone
- Education Zone
- Community Zone
- Utility Service Zone
- Transport Facility Zone
- Public Roads and Parking Zone
- Public Open Space Zone
- Agriculture and Rural Zone

3 Methodology

A typical TIA process involves the estimation of additional private vehicle, Public Transport (PT) and Non-Motorised Transport (NMT) trips and the identification and analyses of remedial measures to

mitigate potential impacts. This typically requires the construction of new roads and improvements at intersections with the provision of NMT and PT infrastructure. The impact of generated traffic on the road network will be investigated for the study area as identified in Section 5 of this report.

The following traffic engineering aspects were undertaken when preparing this TIA:

- Site observations;
- Desktop study to review available informaiton and previous reports;
- Traffic counts at four intersections during the AM and PM peak periods;
- Gathering of additional background information (planning information, geometry, etc.);
- Analysis of the existing traffic conditions and the capacity of the existing road network in the vicinity of the development;
- The status quo of intersection performance;
- Trip generation, distribution and assignment calculations;
- Test the impact of development traffic on intersection performance (considering a 3-year and 5-year post development horizon);
- Identify and recommend road upgrades to mitigate traffic impact where required;
- NMT and PT considerations (ensuring there are sufficient PT and NMT facilities within the study area);
- Access management, taking into consideration sight distance and intersection spacing criteria.

4 Assumptions

The nature of planning work often requires a number of (informed) assumptions to be made. For the purpose of this TIA the following assumptions were made:

- The entire development will be completed by 2036, in six years time.
- A growth rate of 1.7% per anum was assumed to escalate background traffic.
- For the community portion of the development a trip rate similar to that of Offices per $100m^2$ were assumed for the AM and PM peak hour. This is considered to be sufficient since this land use type could include various land use types such as offices, postal offices, etc. But trips attracted/generated by the community component of this development is expected to be internal trips or passer-by trips and not trips to/from external areas, thus trip reduction factors will be applied.
- The Newinbosch, Cloetesville and Oakhills development will be completed by 2026 and the trips to/from the development will be added to the background traffic of 2026 and beyond. These trips will not be escalated when calculating the future traffic.
- The network attributes and link capacity used to evaluate the network performance are shown in Table 1.

Table 1: Route Hierarchy and Link Capacity

Route Hierarchy	Free Flow Speed (km/h)	Capacity (veh/h/ln)
Freeway (Class 1)	100	1800
Expressway (Class 2)	80	1200
District Distributor (Class 3)	60	1000
Local Distributor (Class 4)	60	800

5 Study Area and Study Intersections

The study area of this TIA and the road network classification is shown in Figure 3. This figure also shows the roads that will be affected by the proposed development.

The development will gain access from the larger road network via the R304, which is a provincial road, and the road network of the greater Kayamandi. The existing intersection spacing along R304 in the vicinity of the Kayamandi all comply with the Access Management Guidelines, which stipulates that the spacing between intersections (signalised or unsignalized) should be 270 m:

- Welgevonden Boulevard Signalised Intersection - Sokuqala Street Unsignalised Intersection is spaced a 1500 m from each other.
- Sokuqala Street Unsignalised Intersection - Masitandane Road Signalised Intersection is spaced a 680 m from each other.

Table 2 summarises the roads in the immediate vicinity of the Development with images, showing each road and its roadside environment.

Table 2: Road Classification and Function

Road	Class	Geometry
R304 (MR00174)	Class 2 Major Arterial	Single carriageway, 1 lane per direction
Welgevonden Boulevard	Class 3 Minor Arterial	Single carriageway, 1 lane per direction
Mount Simon Drive	Class 4 Collector	Single carriageway, 1 lane per direction
Sokuqala Street	Class 4 Collector	Single carriageway, 1 lane per direction
Masitandane Road	Class 4 Collector	Single carriageway, 1 lane per direction
Newinbosch Access	Class 3 Minor Arterial	Single carriageway, 1 lane per direction
Link Road	Class 4 Collector	Single carriageway, 1 lane per direction
Future Access	Class 3 Minor Arterial	Single carriageway, 1 lane per direction

Figure 3 below indicates the roadside development environment, with Figure 4 to Figure 9 showing images of the various roads.

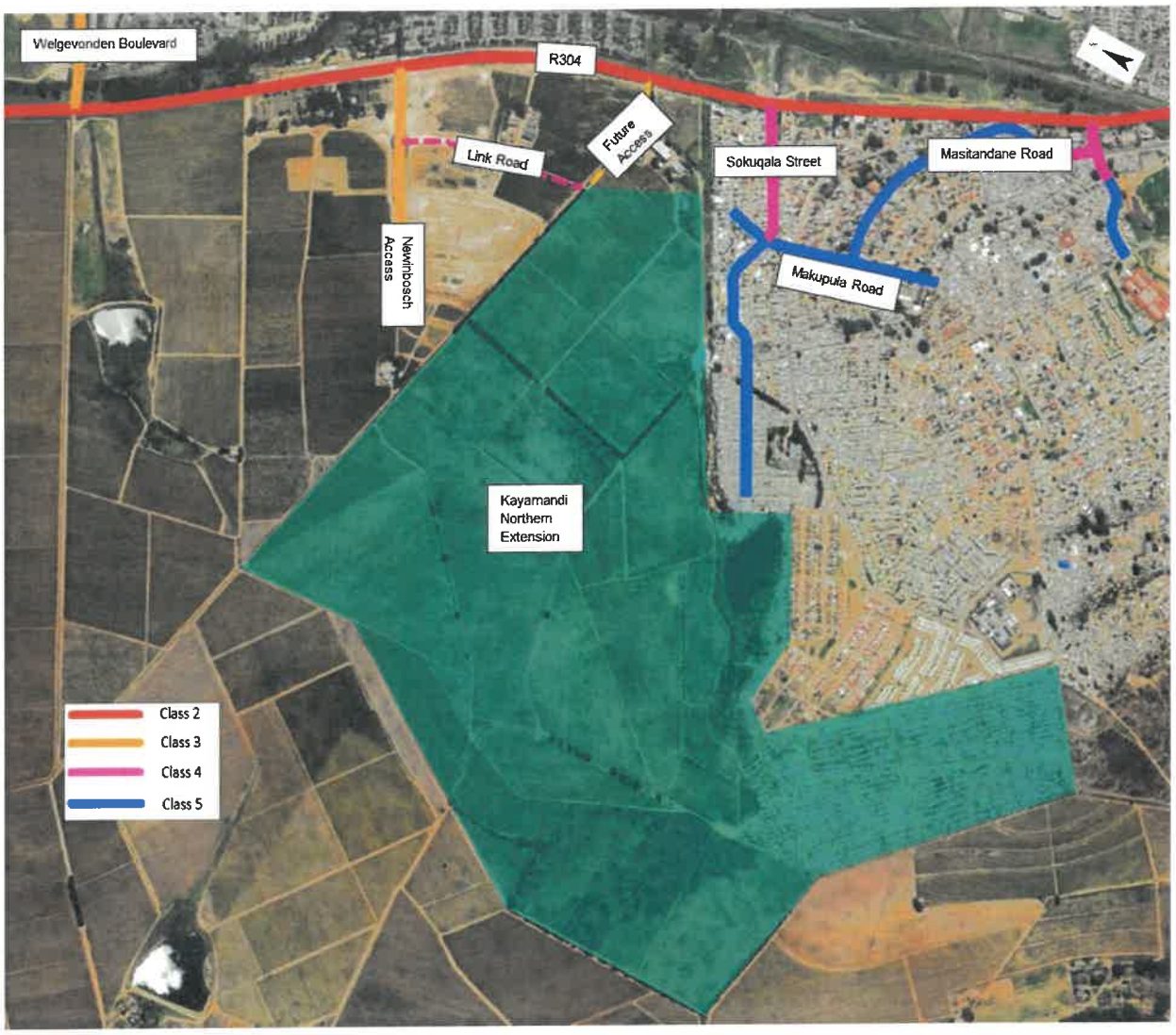


Figure 3: Study Area (Source: Road Network Metropolitan Area: PRoW Plan RD-1.1, Stellenbosch Northern Extension Status Quo Report)



Figure 4: Sokuqala Street, Westbound



Figure 5: Welgevonden Boulevard, Northbound



Figure 6: Masitandane Road, Southbound



Figure 7: Development Access Road, Westbound



Figure 8: R304, Eastbound towards Stellenbosch



Figure 9: R304, Westbound from Stellenbosch

The four intersections indicated in Figure 10 and Table 3 are considered to be the critical intersections that will be impacted by the traffic generated by the Development.

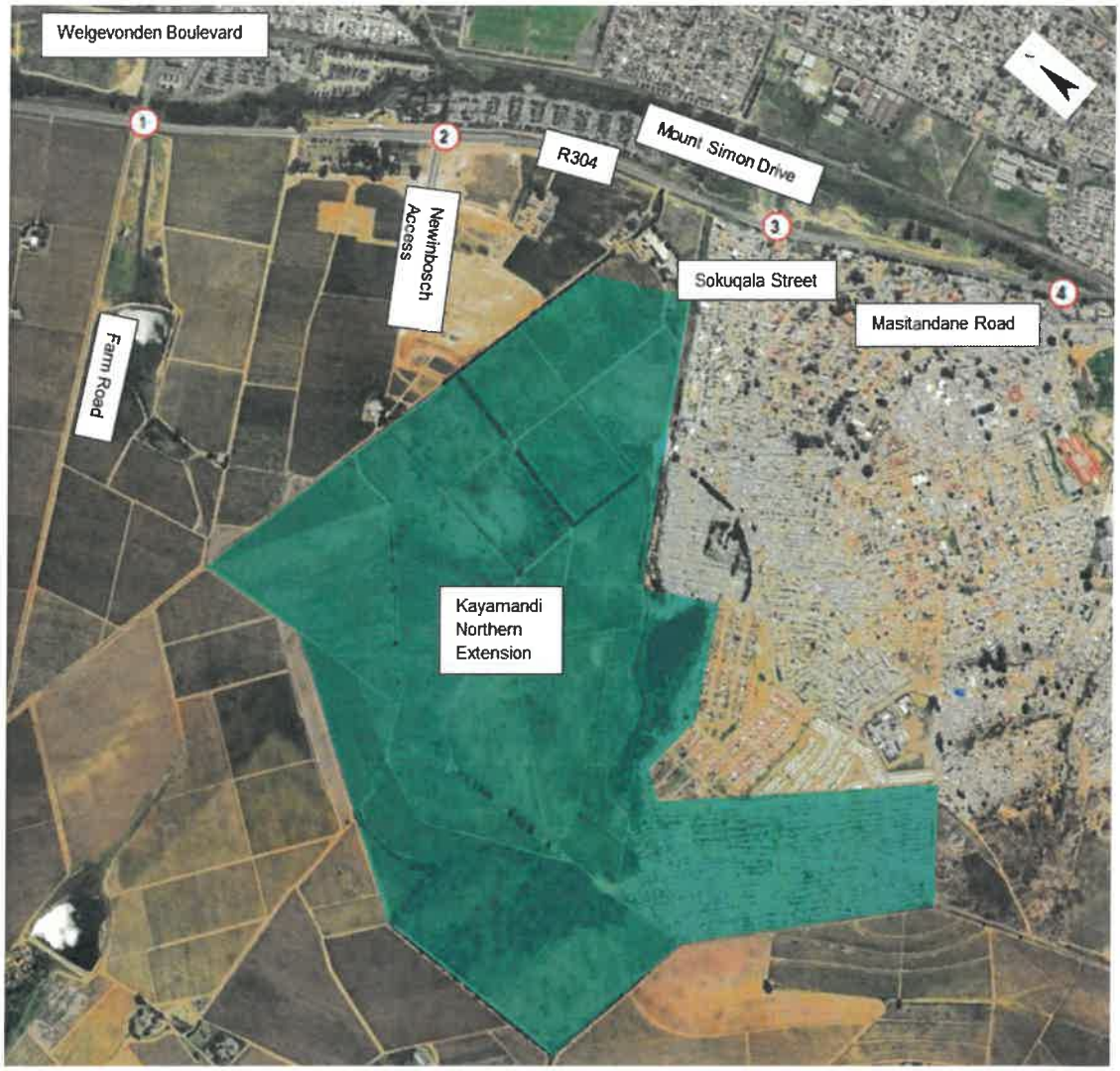
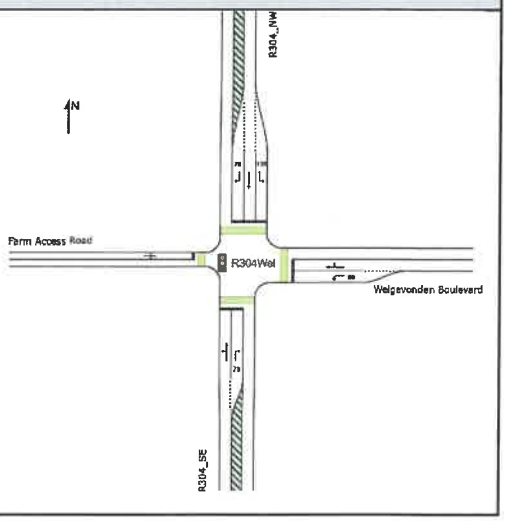
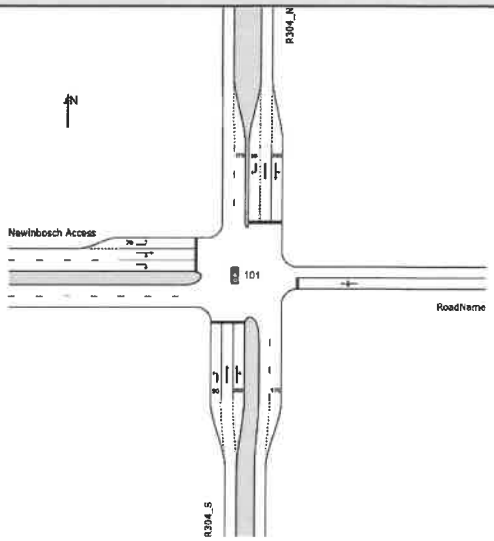
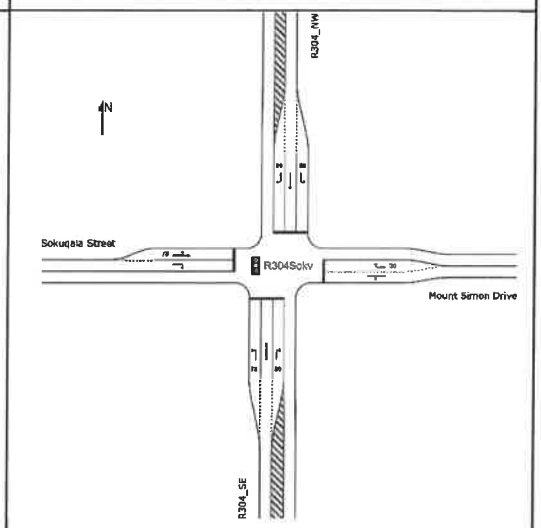
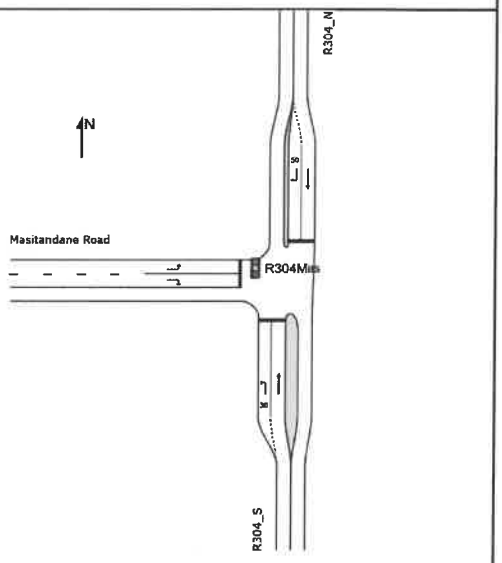


Figure 10: Critical Intersections

Table 3: Critical Intersection control and geometry

Intersecting Roads			Intersection Control Type	Intersection Geometry
1.	R304 (MR00174)	Welgevonden Boulevard	Full Signalised Intersection	

Intersecting Roads			Intersection Control Type	Intersection Geometry
2.	R304	Newinbosch Access	Full Signalised Intersection	
3.	R304	Sokuqala Street and Mount Simon Drive	Full Signalised Intersection	
4.	R304	Masitandane Road	Full Signalised Intersection	

6 Vehicular Traffic Counts

Traffic counts were conducted at the four intersections on the 15th of August 2023 (a typical weekday) during the following periods:

- AM Peak Period (06:00 - 09:00)
- PM Peak Period (15:00 - 18:00)

Figure 11 below indicates the locations where the traffic surveys were undertaken. The traffic count data can be found in Appendix A.

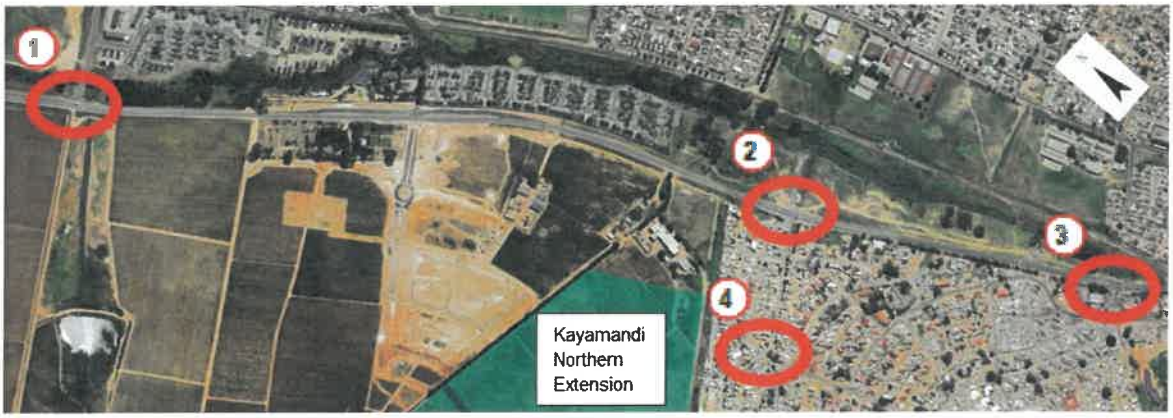


Figure 11: Traffic Survey Locations

From the traffic count data it is evident that the AM peak hour for vehicular traffic occurred from 06:45 to 07:45 and the PM peak hour from 16:00-17:00 as shown in the Table 4 below.

Table 4: AM and PM movements for counted intersections

Time		1. R304 / Welgevonden Bld.	2. R304 / Sokuqala St.	3. R304 / Masitandane Rd.	4. Sokuqala St. / Makupula Rd.	Total
AM						
06:00	07:00	1 611	1503	1 739	224	5 077
06:15	07:15	1 918	1 772	2 039	251	5 980
06:30	07:30	2 065	1 876	2 145	276	6 362
06:45	07:45	2 088	1 885	2 182	267	6 422
07:00	08:00	2 061	1 842	2 144	254	6 301
07:15	08:15	2 002	1 802	2 092	219	6 115
07:30	08:30	1 936	1 780	2 057	192	5 965
07:45	08:45	1 904	1 794	2 012	163	5 873
08:00	09:00	1 855	1 799	1 967	151	5 772
PM						
15:00	16:00	1 889	1 781	1 970	210	5 850
15:15	16:15	1 978	1 865	2 084	198	6 125
15:30	16:30	2 044	1 912	2 169	220	6 345
15:45	16:45	2 085	1 970	2 227	234	6 516
16:00	17:00	2 126	2 007	2 249	210	6 592
16:15	17:15	2 091	1 972	2 284	191	6 538
16:30	17:30	1 977	1 879	2 289	174	6 319
16:45	17:45	1 888	1 785	2 245	155	6 073
17:00	18:00	1 754	1 650	2 161	140	5705

7 Existing NMT Facilities

Although an attempt has been made to accommodate NMT modes, the NMT facilities are somewhat disjointed and in some instances the condition of infrastructure is poor. Some of the existing NMT facilities within and around Kayamandi are shown in Figure 12 and is summarised in Table 5 below. It is essential that these existing facilities be linked (and integrated) into the planned Development.

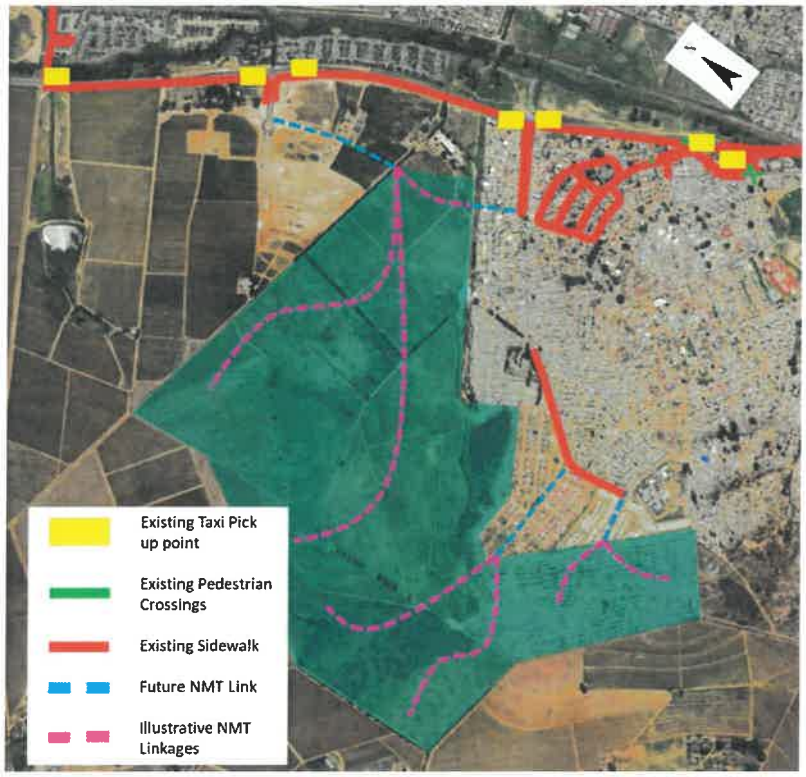


Figure 12: Some of the Existing NMT Facilities throughout Kayamandi and Illustrative NMT Linkages

Table 5: Summary Existing NMT facilities within and around Kayamandi

Road	Extend of NMT facilities
R304	• Sidewalk one side of the road along entire section between R304/Welgevonden Blvd and R304/Masitandane Road • Bicycle lane at intersection R304/Newinbosch Access (120 m on the R304 southern approach) • Sidewalk on both sides of R304 heading into Stellenbosch • Pedestrian crossing between intersections with Masitandane Road and Sokuqala Street
Masitandane Road	• Sidewalk along the entire length • Condition of sidewalk seems poor in some areas and somewhat disjointed • Couple of pedestrian crossings on this road
Sokuqala Street	• Sidewalk provided between R304 and Makupula Road intersections although it appears to be in poor condition • From the intersection with Makupula Road no sidewalks provided

Road	Extend of NMT facilities
Makupula Road	• Between intersection with Sokuqala Street and Mondi Street, a sidewalk is provided on one side • No sidewalk between Mondi Steet and Bassi Street and between Sokuqala Street and Sesihlanu Street • Pedestrian crossing at Makupula Secondary School
Mount Simon Drive	• No sidewalk provided
Newinbosch Access	• Sidewalks on both sides of road
Welgevonden Boulevard:	• Sidewalk provided on one side of the road



Figure 13: Existing NMT on Sokuqala Street



Figure 14: Existing NMT on Masitandane Road

8 Existing Public Transport

8.1 Existing Public Transport Facilities

There is an existing taxi rank in Kayamandi, on the corner of R304 and Masitandane Road, shown in Figure 15 and Figure 16.



Figure 15: Aerial view of Kayamandi Taxi Rank



Figure 16: Kayamandi Taxi Rank

There are multiple PT drop off and pick up stops along the R304, shown in the images below.



Figure 17: Close to intersection R304 / Masitandane Road



Figure 18: R304 / Sokupula Street



Figure 19: R304 / Development Access Road



Figure 20: R304 / Welgevonden Boulevard

8.2 Public Transport Usage

The EMME Stellenbosch Transport Model indicates that approximately 78% of the Base Year trips to and from Kayamandi in the AM Peak Period is PT trips. The modal split of trips to and from Kayamandi is shown in Figure 21. This behaviour is expected to be similar for the Kayamandi Northern Extension development.

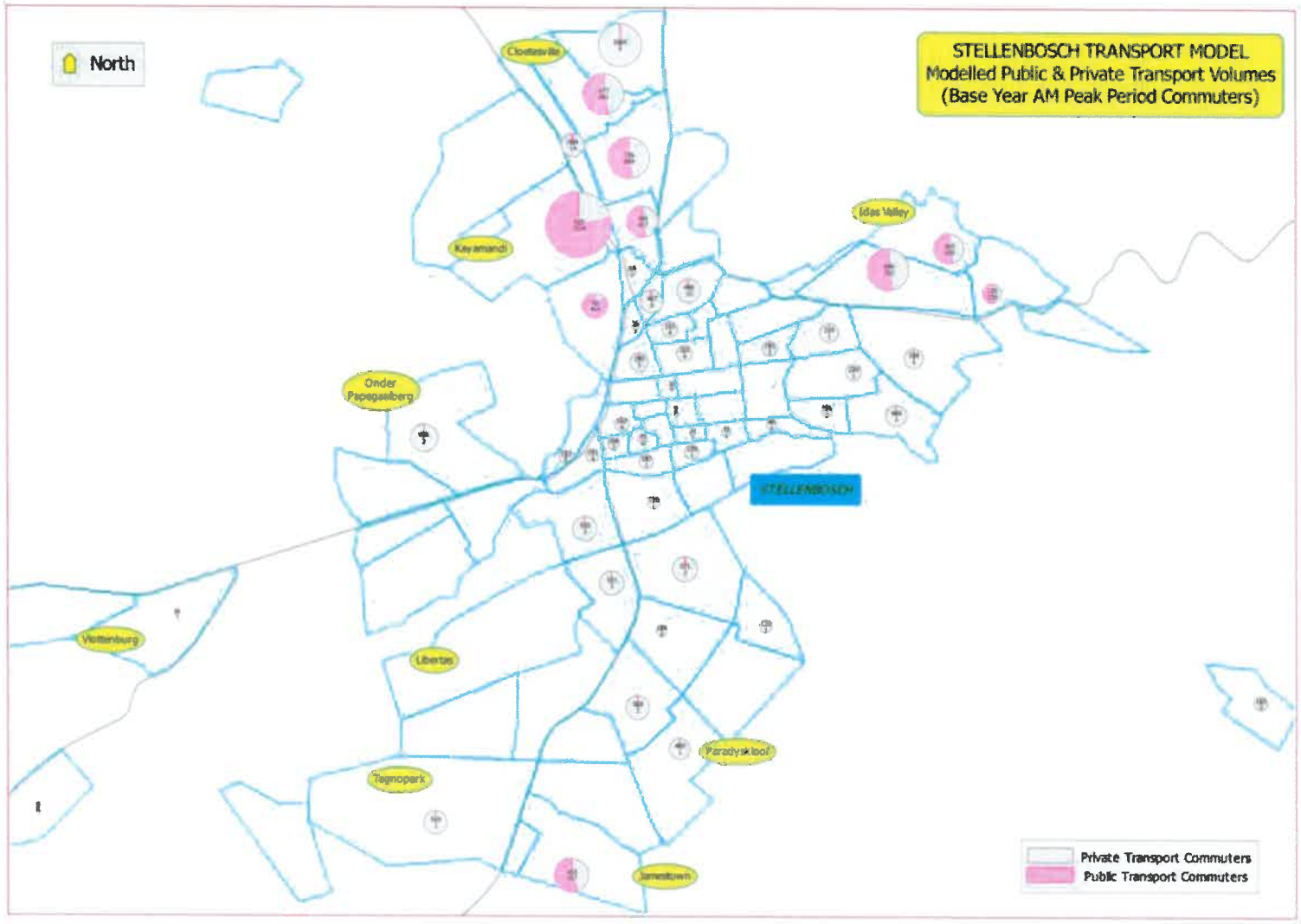


Figure 21: Private/Public Modal split (Source: Stellenbosch Roads Masterplan)

9 Future Road Network Planning

9.1 Dualling of the R304

The dualling of the R304 between Kayamandi and the R44 intersection has been on the cards for several years. The Stellenbosch Roads Masterplan (dated 2019) and the latest CITP (2022-2026) recommends that this road be upgraded to a dualled carriageway with two lanes per direction.

Below an extract form the CITP:

"R304/Bird Street Link – The link to Stellenbosch from the N1 through the R304 (provincial responsibility) is one of the five major road links into central Stellenbosch – see Chapter 3. The first development which is part of the proposed Adam Tas Corridor proposals (Precinct 10 – referred to as Newinbosch) is in fact starting at this time and a new access road from the R304 to the site, as well as partial dualling of the R304, is almost completed – refer to Figure 7-5. This development will put further pressure on the R304 leading into Stellenbosch from the west. It is being addressed through the planned doubling of the R304 between Kayamandi and the R44. Exactly how the current bottleneck of the R44/Bird intersection will be upgraded, is not known.'

In addition to the dualling of the R304, the R304 Arterial Management Plan for the section of the R304 between Klipheuwel and Stellenbosch, recommends that the intersection between the R304 and Sokuqala Street be upgraded to a signalised intersection. This intersection upgrade has been completed recently.

9.2 Western Bypass

The R44 serves as a north/south route connecting Strand, Somerset West, Helderberg and Overstrand with Paarl, Wellington and Malmesbury. In the Stellenbosch area it also acts as a commuter route for workers seeking employment opportunities in Stellenbosch. The R44 thus operates under highly congested conditions due to this dual function. The R304 also adds to the highly congested conditions on the R44. Since traffic from the general Cape Town area generally use the R304 to access employment and/or education opportunities in the Stellenbosch and Somerset West areas.

One of the solutions to alleviate the high congestion levels on the R44 is to construct a parallel route on the western side past Stellenbosch which can then serve the longer distance traffic. Investigation into the environmental concerns of such a route have been commissioned. The Stellenbosch Roads Masterplan (dated 2019) has recommended three potential routes for such a route, dubbed the Western Bypass. The options are depicted in Figure 22.

For the current Development under consideration, the route indicated as Option 2 is of importance. Option 2 is a new road, approximately 6 km long, between R310 heading north to link with the R304 and to tie into the existing intersection with Welgevonden Boulevard. The route runs east of the Stellenbosch land-fill and joins Devon Valley Road for a portion before deviating to pass over the hill. Linking up with Option 3, which is currently being implemented as a potential new interchange. Option 3 is a new road, approximately 4 km long, linking Technopark and Adam Tas Road (R310). Both links are classified as Class 2 Major Arterial, with Option 2 being proposed as a dual carriageway and Option 3 as a single carriageway.

Various studies have indicated different results with regards to the impact on reducing traffic on the R44. With results from the Stellenbosch Road Masterplan showing a 50% reduction in traffic on the R44. However, a gateway study conducted by Messrs found that traffic on the R44 will only reduce by 10%.

The implementation of the Western Bypass will not only reduce traffic on the R44, but on the R304 as well. Especially when Option 2 of the Western Bypass is implemented with Option 3. However, the impact on the reduction of traffic on the R304 is currently unclear.

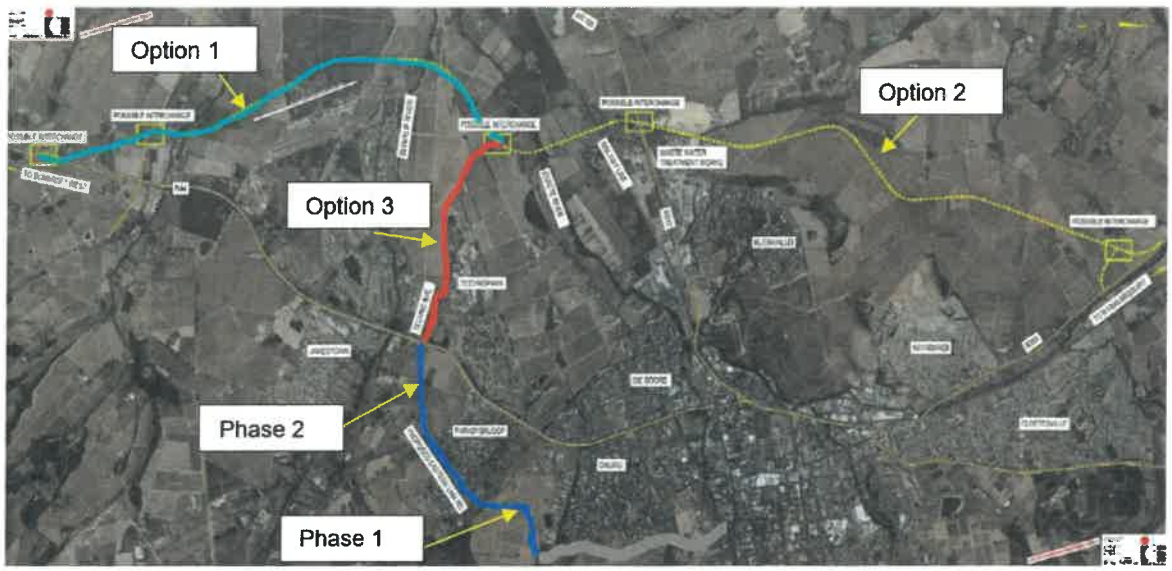


Figure 22: Possible Alignments of the Western Bypass (Stellenbosch CITP 2022 - 2026)

In the chapters that follow, the road network surrounding the Development will be analysed. Where mitigation measures are needed to improve the operating conditions of intersections, the recommendations listed above will be tested.

10 Previous Planned Developments

At the time of preparing this TIA, three other developments had submitted TIAs to the Stellenbosch Municipality for approval which will impact the road network under consideration. It was therefore necessary to take trips to/from these developments into account and consider the overall impact on the road network. The three developments that will be considered in this TIA are listed below:

- Oakhills Estate Stellenbosch – Construction in progress
- Farm 81/33 Newinbosch – Construction in progress
- Erf 7001 Cloetesville - Planned

Figure 23 shows the locations of these developments. Table 6 indicates the number trips each development will generate, as determined by their respective TIS. As shown, a total of 2790 trips (1084 IN and 1706 OUT) will be generated in the AM peak and 2439 trips (1536 IN and 903 OUT) will be generated in the PM peak hour. It should be noted that not all the trips generated will be taken into account, only the trips that are distributed from Oakhills and Cloetesville to the R304 via Welgevonden Boulevard will be accounted for.

To account for these developments, the potential peak hour traffic generated by the each of these developments, as shown in Table 6, were added to the background traffic. For the purpose of this TIA, it was assumed that all of these developments will be completed by 2026 and will form part of the background traffic. More detail on how these developments were incorporated into this TIA is described in Section 12.

Table 6: Previous developments generated trips

Development	AM		PM	
	IN	OUT	IN	OUT
Oakhills Estate	47	142	132	57
Newinbosch	986	1411	1261	785
Cloetesville	51	153	143	61
Total	**1084**	**1706**	**1536**	**903**



Figure 23: Locations of Previously Planned Developments

11 Proposed Development

11.1 Detail of Development

The Site Development Plan is shown in Appendix B which shows the extent of the Development, it consists of numerous land uses such as; residential, community, mixed-use, commercial, retail and educational land uses. An in-situ upgrade of the existing informal settlement Azania is also planned.

11.2 Development Phasing

Due to the size of the development it will be implemented in phases. Appendix B also shows the planned phasing of the development. In compiling this ITA, a stepwise approach was followed in which development traffic was added incrementally and the road upgrades required for each phase of the development identified. The summary of the phasing with the assumed implementation year of each phase is shown in Table 7.

Table 7: Summary of Development Phasing

Phases	Portion	Development Portion	Assumed Implementation Year
10, 2 and 1	1	In-situ upgrade of existing Azania informal settlement Educational Facility Major Utilities	2026
6	2	Single Residential Units	2028
7	3	Single Residential Units	2030
5	4	Commercial and Apartments	2031
8 and 3	5	Single Residential Units Apartments	2033
9 and 11	6	Community Facility Public Transport Interchange	2034
12	7	Single Residential Units	2035
4	8	Educational Facility	2036

11.3 Development Traffic

11.3.1 Trip Generation

Trip generation rates were obtained from the South African Committee of Transport Officials (COTO) Trip Data Manual, TMH 17, Volume 1 (2013). The trip generation rates used are shown in the table below.

Table 8: Applied Trip Generation Rates

Land Use	Category	COTO Code	Trip Rate		Split IN / OUT			
			AM [trips/unit]	PM [trips/unit]	AM		PM	
					In [%]	Out [%]	In [%]	Out [%]
Single Residential	Residential	210	1	1	25	75	70	30
Apartments	Residential	220	0.65	0.65	25	75	70	30
Commercial and Retail	Mixed Use	820	0.6	-	65	35	-	-
Secondary School	Institutional	530	0.75	0.25	50	50	50	50
Primary Schools	Institutional	520	0.85	0.3	50	50	50	50
Community Facilities	Community[1]	710	2.1	2.1	85	15	20	80

The TMH17 provides trip reduction rates, like vehicle ownership levels, for the various land uses. For this particular development a vehicle ownership reduction of 78% will be used for all the land uses. This is based on the results of the EMME Stellenbosch Transport Model which indicates that 78% of trips to and from Kayamandi is with Public Transport. A similar behaviour is assumed for the expansion. Given that Kayamandi is a township with high unemployment rates and low-income levels, this seems to be a reasonable assumption. The reduction rate for mixed use developments will also be applied to the no-residential land use types, since these land uses will be within reasonable walking distance of the residential land uses. These trips can be conducted via NMT. The summary of the applied reduction factors and the total reduction per land use is provided in Table 9.

Table 9: Applied Trip Reduction

Land Use	Reduction Factors			
	Mixed Use Development	Vehicle Ownership	Transit node	Total Reduction
Single Residential	-	78%	-	78%
Apartments	-	78%	-	78%
Commercial and Retail	10%	78%	-	80%
Secondary School	30%	78%	-	85%
Primary School	30%	78%	-	85%
Community Facilities	20%	78%	-	82%

Based on the trip generation rates, trip reduction rates and proposed land use, it is estimated that the development will generate the trips as shown in Table 10.

It should be noted that the informal settlement that will be upgraded for Portion 1 will be in-situ. No new additional developments will be introduced as part of Portion 1 as the existing informal settlement will be upgraded and no additional (new) trips will be generated.

[1] A trip generation rates similar to that of offices was used for the other/remain Community land use types.

11.3.2 Trip Distribution and Assignment

The trips generated by the educational facility of phase 1 and Phases 2 to 12 of the proposed development were distributed onto the existing road network.

The trips to and from the in-situ upgraded informal settlement will remain unchanged. The trips generated by remaining development will be distributed as follows:

- **Incoming traffic**: It was assumed that 50% of the trips attracted to the Development will be generated from the north/west of the development via the R304 (from the N1 side and Welgevonden Boulevard split 45% and 5% respectively). 50% will be generated south/east of the development (from Stellenbosch), accessing the development from the R304.
- **Outgoing traffic**: It was assumed that 50% of the outgoing traffic would head north/west, away from Stellenbosch towards the N1 and Welgevonden Boulevard (split 45% and 5% respectively). 50% of the outgoing traffic was distributed to the south/east towards Stellenbosch.

The assumed trip distribution is shown in Appendix C.

Table 10: Generated Trips

Portion	Land Use Description	Category	GLA / Number of Students	Number of Units	Number of Trips				Number of Trips Light Vehicles				Number of Trips Heavy Vehicles			
					AM		PM		AM		PM		AM		PM	
					IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
1	Education	Primary School	960 Students		63	63	22	22	57	57	20	20	6	6	2	2
			Sub-Total		**63**	**63**	**22**	**22**	**57**	**57**	**20**	**20**	**6**	**6**	**2**	**2**
			End Portion Total		**63**	**63**	**22**	**22**	**57**	**57**	**20**	**20**	**6**	**6**	**2**	**2**
2	Residential	Single Residential		591	33	98	91	39	33	98	91	39				
		Apartments		387	14	42	39	17	14	42	39	17				
			Sub-Total	**978**	**47**	**140**	**130**	**56**	**47**	**140**	**130**	**56**				
			End Portion Total	**978**	**110**	**203**	**152**	**78**	**104**	**197**	**150**	**76**	**6**	**6**	**2**	**2**
3	Residential	Single Residential		371	20	61	57	24	20	61	57	24				
		Apartments		597	21	64	60	26	21	64	60	26				
			Sub-Total	**968**	**41**	**125**	**117**	**50**	**41**	**125**	**117**	**50**				
			End Portion Total	**1,946**	**151**	**328**	**269**	**128**	**145**	**322**	**267**	**126**	**6**	**6**	**2**	**2**
4	Community	Mixed	9,460 m²		19	10	0	0	18	9	0	0	1	1	0	0
	Residential	Apartments		405	14	43	41	17	14	43	41	17				
			Sub-Total	**405**	**33**	**53**	**41**	**17**	**32**	**52**	**41**	**17**	**1**	**1**	**0**	**0**
			End Portion Total	**2,351**	**184**	**381**	**310**	**145**	**177**	**374**	**308**	**143**	**7**	**7**	**2**	**2**
5	Residential	Single Residential		639	35	105	98	42	35	105	98	42				
		Apartments		211	8	23	21	9	8	23	21	9				
			Sub-Total	**850**	**43**	**128**	**119**	**51**	**43**	**128**	**119**	**51**				
			End Portion Total	**3,201**	**227**	**509**	**429**	**196**	**220**	**502**	**427**	**194**	**7**	**7**	**2**	**2**

Portion	Land Use Description	Category	GLA / Number of Students	Number of Units	Number of Trips				Number of Trips Light Vehicles				Number of Trips Heavy Vehicles			
					AM		PM		AM		PM		AM		PM	
					IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
6	Community	Community Facilities	6 625 m²		21	4	5	20	21	4	5	20				
			Sub-Total		**21**	**4**	**5**	**20**	**21**	**4**	**5**	**20**				
			End Portion Total	**3,201**	**248**	**513**	**434**	**216**	**241**	**506**	**432**	**214**	**7**	**7**	**2**	**2**
7	Residential	Single Residential		300	17	50	46	20	17	50	46	20				
			Sub-Total		**17**	**50**	**46**	**20**	**17**	**50**	**46**	**20**				
			End Portion Total	**3,501**	**265**	**563**	**480**	**236**	**258**	**556**	**478**	**234**	**7**	**7**	**2**	**2**
8	Education	Secondary School	**1,000 students**		58	58	19	19	52	52	17	17	6	6	2	2
			Sub-Total		**58**	**58**	**19**	**19**	**52**	**52**	**17**	**17**	**6**	**6**	**2**	**2**
			End Portion Total	**3,501**	**323**	**621**	**499**	**255**	**310**	**608**	**495**	**251**	**13**	**13**	**4**	**4**

12 Network Analysis

12.1 Analysis Criteria

The impact on the capacity and intersection operations were analysed using SIDRA Intersection 9.1 software (hereafter referred to as Sidra), reporting on the following aspects:

- Level-of-Service (LOS, see Table 11 for details);
- Average Delay per Vehicle (Seconds); and
- Degree of Saturation (v/c ratio).

12.1.1 Level of Service

The intersections analysed in this report have been measured according to "Level of Service" (LOS) with LOS A being the best condition with lower average delay and LOS F being the worst, usually indicating that the intersection is currently operating over capacity.

Table 11: Level of Service (LOS) Definition

Level of Service (LOS)	Intersection Type	
	Signals & Traffic Circles (Delay in Seconds)	Sign Control (Delay in Seconds)
A	d < 10	d < 10
B	10 < d < 20	10 < d < 15
C	20 < d < 35	15 < d < 25
D	35 < d < 55	25 < d < 35
E	55 < d < 80	35 < d < 50
F	80 < d	50 < d

The acceptable level of service for intersections is generally accepted to be LOS D. LOS E and F represent unstable conditions with longer queues and higher than tolerable delays. With LOS E and F most, cycles fail to clear their associated queues and the queue length increases with each progressive cycle.

12.2 Traffic Growth

In order to estimate the future traffic conditions, it was necessary to apply a growth rate to the existing (2023) traffic. The TMH 17 provides typical growth rates, shown in Table 12:

Table 12: TMH17 Typical Traffic Growth Rates

Development Area	Growth Rate
Low growth areas	0 – 3%
Average growth areas	3 – 4%
Above average growth areas	4 – 6%
Fast growing areas	6 – 8%
Exceptionally high growth areas	>8%

A 1.7% growth rate was calculated using data from the Western Cape Government's counting stations located along the R304 and the R310 in the vicinity of Kayamandi. The historical traffic count data was accessed using the Road Network Information System (RNIS).

Figure 24 shows the locations of the counting stations relative to the Development. From these stations traffic count data for 2009 and 2018 were used to determine a growth rate for this area. Table 13 shows the calculation of the average growth rate. Based on the RNIS data a growth rate of approximately 1.7% was applied to estimate the future background traffic.

Table 13: Traffic Growth Rate

Station	Leg	2009 AADT	2018 AADT	Growth Rate	Average Growth Rate
MR00174 KM58.49	A	18 034	18 657	0.4%	1.7%
MR00174 KM58.49	C	18 034	18 657	0.4%	
MR00027 KM36.2	A	19 339	25 022	3%	
MR00027 KM36.2	C	19 339	25 022	3%	

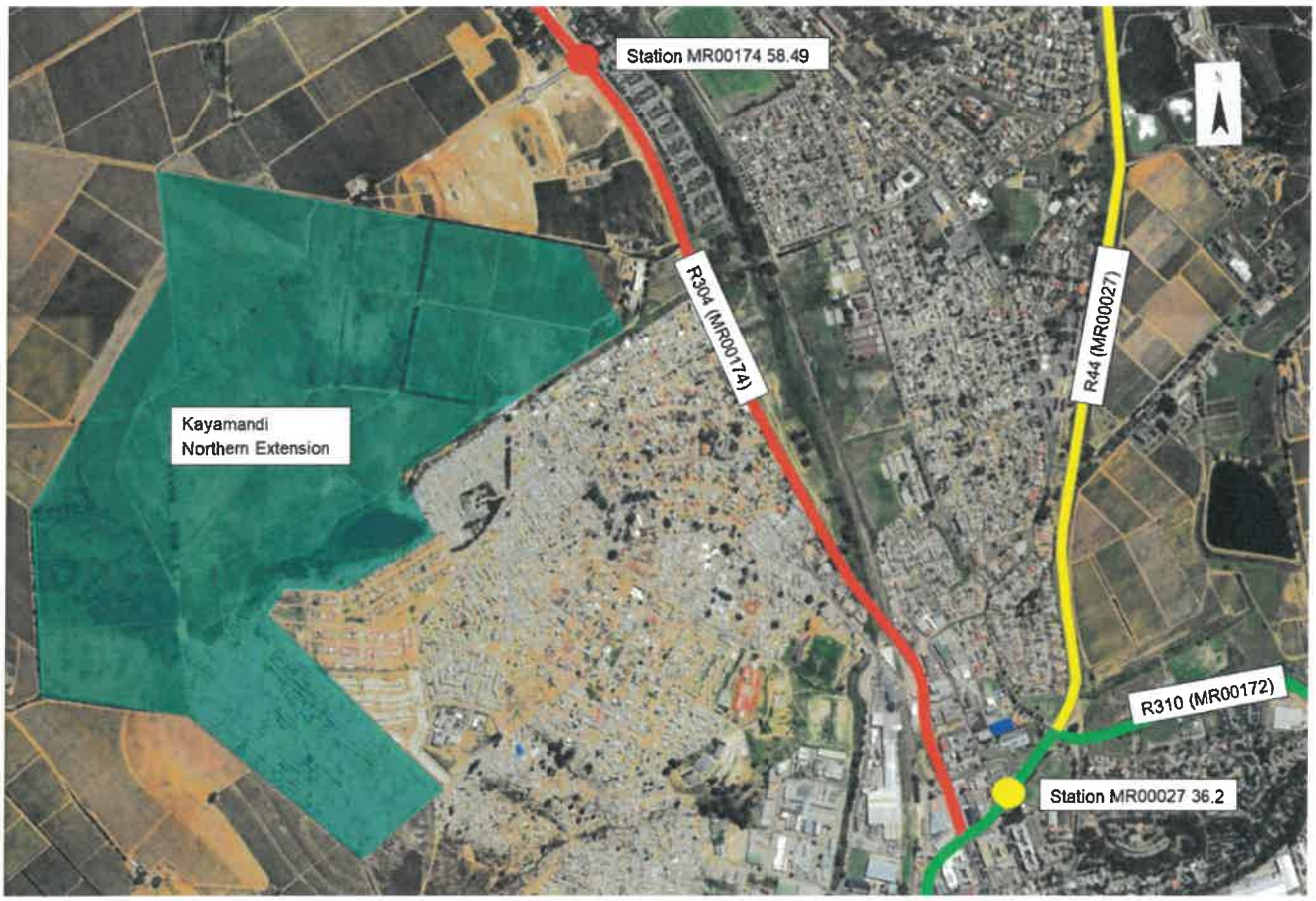


Figure 24: Count Station Locations

12.3 Analysis Scenarios

This study will analyse the critical intersections for the scenarios shown in Table 14.

Table 14: Summary of Analysis Scenarios

Scenario	Description	Traffic
Scenario 0	**Existing Traffic (2023) Conditions**	2023 Traffic Conditions
Scenario 1 (a)	**2026 Background Traffic without Development Traffic**	2026 Traffic (2023 traffic adjusted with growth rate of 1.7% per annum over **three-year period**. + Newinbosch + Oakhills + Cloetesville
Scenario 1 (b)	**2026 Total Traffic including Portion 1 of Development Traffic**	As per Scenario 1 (a) + Portion 1 of planned development
Scenario 2 (a)	**2028 Background Traffic without Development Traffic**	2023 traffic conditions adjusted with a growth rate of 1.7% per annum over a **five-year period**. + Newinbosch + Oakhills + Cloetesville
Scenario 2 (b)	**2028 Total Traffic including Portion 2 of Development Traffic**	As per Scenario 2 (a) + Portion 2 of planned development
Scenario 3 (a)	**2030 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **seven-year period**. + Newinbosch + Oakhills + Cloetesville
Scenario 3 (b)	**2030 Total Traffic including Portion 3 of Development Traffic**	As per Scenario 3 (a) + Portion 3 of planned development
Scenario 4 (a)	**2031 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **eight-year period**. + Newinbosch + Oakhills + Cloetesville
Scenario 4 (b)	**2031 Total Traffic including Portion 4 of Development Traffic**	As per Scenario 4 (a) + Portion 4 of planned development
Scenario 5 (a)	**2033 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **ten-year period.** + Newinbosch + Oakhills + Cloetesville
Scenario 5 (b)	**2033 Total Traffic including Portion 5 of Development Traffic**	As per Scenario 5 (a) + Portion 5 of planned development
Scenario 6 (a)	**2034 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **eleven-year period.** + Newinbosch + Oakhills + Cloetesville
Scenario 6 (b)	**2034 Total Traffic including Portion 6 of Development Traffic**	As per Scenario 6 (a) + Portion 6 of planned development
Scenario 7 (a)	**2035 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **twelve-year period.** + Newinbosch + Oakhills + Cloetesville

Scenario	Description	Traffic
Scenario 7 (b)	**2035 Total Traffic including Portion 7 of Development Traffic**	As per Scenario 7 (a) + Portion 7 of planned development
Scenario 8 (a)	**2036 Background Traffic without Development Traffic**	2023 traffic is adjusted with a growth rate of 1.7% per annum over a **thirteen-year period**. + Newinbosch + Oakhills + Cloetesville
Scenario 8 (b)	**2036 Total Traffic including Portion 8 of Development Traffic**	As per Scenario 8 (a) + Portion 8 of planned development

13 Intersection Analysis

The intersections listed in Table 3 were analysed using Sidra to determine the level of service (LOS) at each study intersection. Initially the existing geometric layouts and signal timing settings were used.

LOS F is considered to be unacceptable. Where an intersection's LOS is F, mitigation measures will be proposed and tested. The detailed results of the Sidra analysis can be found in the separate document: *Traffic Impact Assessment for the Kayamandi Northern Extension – Sidra Results.*

13.1 Scenario 0: 2023 Traffic Conditions

The assumptions made when analysing this scenario are:

- The road network and existing intersection layouts are unchanged (as per the existing situation)
- Signalised intersections will be tested with the minimum and maximum signal phase duration received from the Stellenbosch Municipality. The cycle times were optimised within these minimum and maximum bounds. Maximum cycle time of 120 sec were used.

The existing weekday AM and PM peak hour LOS for each intersection are indicated in Table 15 below.

Table 15: Existing (2023) Intersection Analysis Summary (Scenario 0)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	16.1	0.82	B	A	D	B	-
	R304 / Sokuqala Street	15.8	0.82	B	C	D	A	C
	R304 / Masitandane Road	47.8	0.92	D	E	-	B	E
	R304/Newinbosch Access	Newinbosch still under construction						
PM PEAK	R304 / Welgevonden Boulevard	18.3	0.87	B	B	C	B	-
	R304 / Sokuqala Street	20.6	0.90	C	C	E	A	E
	R304 / Masitandane Road	45.6	0.93	D	D	-	B	E
	R304/Newinbosch Access	Newinbosch still under construction						

From the Sidra analysis results it is noted that:

- The R304 / Welgevondedn Boulevard intersection operates at LOS B for the AM and PM peak hour and overall the intersection operates well.
- R304 / Sokuqala Street intersection was found to operate under LOS B and LOS C for the AM and PM peak hours respectively.

- The R304 / Masitandane Road was found to operarte at acceptable LOS D for the AM peak hour and PM peak hour.

13.2 Scenario 1 (a): Future Year 2026 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The planned developments Oakhills, Cloetesville and Newinbosch have been implemented and their respective generated trips have been added to the network.
- A 1.7% annual growth rate for a period of three-years was applied to the 2023 background traffic to estimate the 2026 background traffic.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings.

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 16.

Table 16: Sidra Results for Scenario 1 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	88.6	1.07	F	E	F	F	-
	R304 / Sokuqala Street	90.3	1.11	F	D	E	F	E
	R304 / Masitandane Road	178.3	1.27	F	F	-	F	F
	R304 / Newinbosch Access	55.3	0.86	E	C	-	E	E
PM PEAK	R304 / Welgevonden Boulevard	62.3	1.01	E	E	F	D	-
	R304 / Sokuqala Street	409.3	1.72	F	F	E	A	E
	R304 / Masitandane Road	273.5	1.51	F	F	-	B	F
	R304 / Newinbosch Access	27.0	0.92	C	C	-	B	C

From the Sidra analysis results it is noted that:

- Only the R304 / Newinbosch intersection operaters under acceptable conditions during both the AM and PM peak hours.
- All the other intersection operates either at capacity or beyond its capacity.
- The poor operating conditions are a result of background traffic conditions, which includes the traffic generated by the Oakhills, Cloetesville and Newinbosch developments and is not due to the implementation of the Kayamandi Northern Extension Development.

Mitigation measures will be considered in the following section.

13.2.1 Mitigation Measures

Table 17 shows the expected 2026 link volumes along the R304 for the AM and PM peak hour. Considering that the assumed capacity of the R304 is 1200 veh/h/lane, the R304 will reach its capacity before 2026.

Table 17: R304 Peak Hour Link Volume (2026)

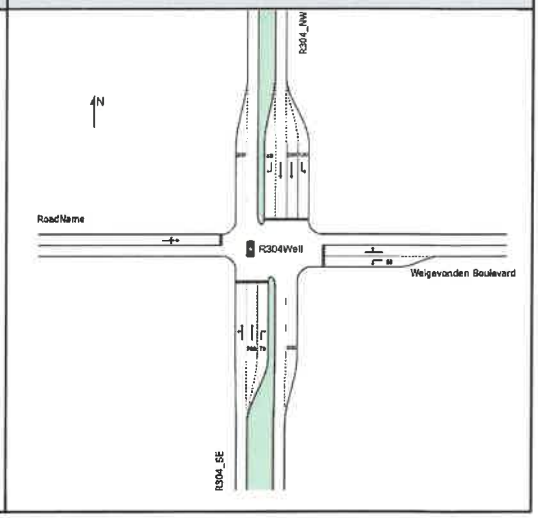
Intersection	Assumed capacity (veh/h/ln)	2026 Expected Peak hour link volume along the R304			
		AM		PM	
		To Stellenbosch	To N1	To Stellenbosch	To N1
Welgevonden Boulevard / R304	1200	1400	1600	1300	1600
Sokuqala Street / R304	1200	1800	1400	1100	2000

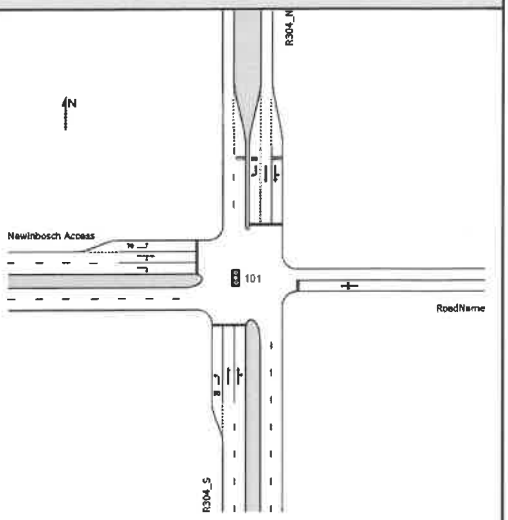
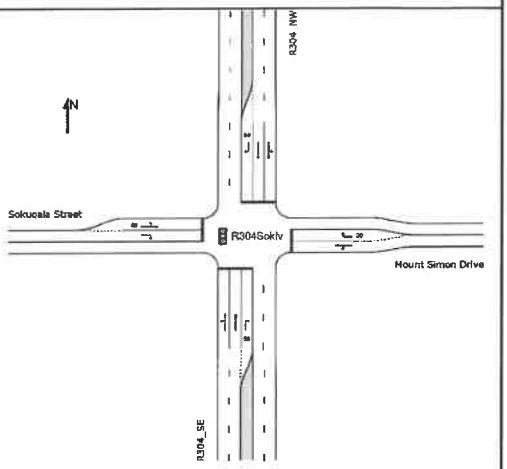
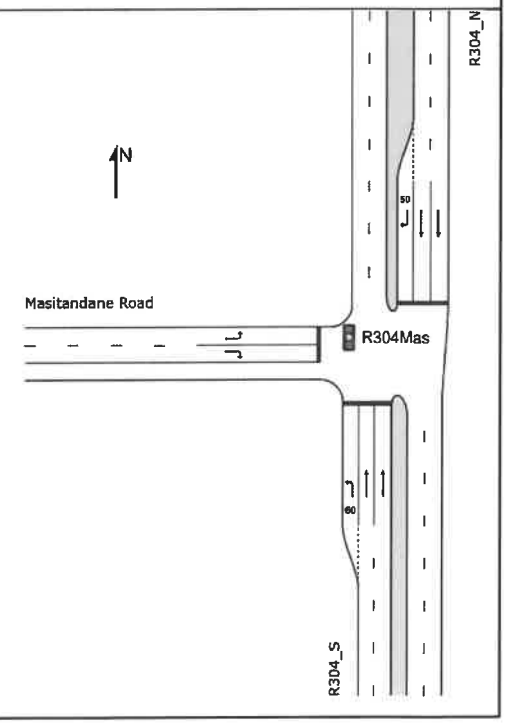
Considering the Sidra results and the expected future link volumes, it is evident that the R304 has serious capacity constraints as a single carriageway with one lane per direction. It is therefore recommended that the R304 be dualled from the Newinbosch Access to the R44 intersection by 2026 to add capacity to this section of the R304. As well as upgrading the R304 / Welgevonden Boulevard. The same recommendation was made by an independent consultant who prepared the TIA for the Newinbosch development.

The proposed timeframe for dualling the R304 is indicated in Appendix D. The Stellenbosch Roads Masterplan (30 August 2019) also refers to the dualling of the R304 between the R304 / R44 (Adam Tas Road) intersection and the R304 / Welgevonden Boulevard intersection.

The new layouts for all the intersections after the dualling of the R304 is shown in Table 18.

Table 18: Intersections control and geometry after R304 dualling between Newinbosch Access and the R44

Intersecting Roads			Intersection Control Type	Intersection Geometry
1.	R304 (MR00174)	Welgevonden Boulevard	Full Signalised Intersection	

Intersecting Roads			Intersection Control Type	Intersection Geometry
2.	R304	Newinbosch Access	Full Signalised Intersection	
3.	R304	Sokuqala Street and Mount Simon Drive	Full unsignalized Stop controlled on Sokuqala Street and Mount Simon Drive	
4.	R304	Masitandane Road	Full Signalised Intersection	

The impact of the dualling of the R304 between Welgevonden Boulevard and the R304 intersection, were tested in Sidra and the results shown in Table 19.

Table 19: Sidra Results for Scenario 1 (a) with Mitigation Measures

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	18.8	0.75	B	B	C	B	-
	R304 / Sokuqala Street	10.2	0.64	B	B	D	A	C
	R304 / Masitandane Road	20.9	0.91	C	C	-	A	C
	R304 / Newinbosch Access	22.6	0.86	C	C	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	15.6	0.66	B	B	C	B	-
	R304 / Sokuqala Street	10.7	0.78	B	B	E	A	E
	R304 / Masitandane Road	17.1	0.89	B	C	-	A	C
	R304 / Newinbosch Access	25.0	0.92	C	C	-	B	C

13.3 Scenario 1 (b): Future Year 2026 Traffic including Development Portion 1 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1) have been implemented by 2026:
    - The R304 has been upgraded to be a dual carriageway with two lanes per direction between the Newinbosch Access and the R44 intersection.
    - The R304 / Welgevonden Boulevard intersection has been upgraded.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of three-years was applied to the 2023 background traffic to estimate the 2026 background traffic.
- The Portion 1 of the Development has been completed and trips will be distributed onto the road network.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings.

The Phase 1 development traffic was added to the expected 2026 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 20.

Table 20: Sidra Results for Scenario 1 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	21.1	0.70	C	C	C	B	-
	R304 / Sokuqala Street	10.3	0.66	B	B	D	A	C
	R304 / Masitandane Road	18.5	0.91	B	C	-	B	C
	R304 / Newinbosch Access	26.7	0.97	C	D	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	16.0	0.66	B	B	C	B	-
	R304 / Sokuqala Street	10.8	0.78	B	B	E	A	E
	R304 / Masitandane Road	23.8	0.89	C	C	-	A	D
	R304 / Newinbosch Access	34.6	0.97	C	D	-	B	D

From the Sidra analysis results it is noted that:

► All intersections operate under acceptable LOS conditions.

13.4 Scenario 2 (a): Future Year 2028 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1) have been implemented by 2028:
  - The R304 has been upgraded to be a dual carriageway with two lanes per direction between the Newinbosch Access and the R44 intersection.
  - The R304 / Welgevonden Boulevard intersection has been upgraded.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of five-years was applied to the 2023 background traffic to estimate the 2028 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 21.

Table 21: Sidra Results for Scenario 2 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	21.1	0.70	C	C	C	B	-
	R304 / Sokuqala Street	10.4	0.65	B	B	D	A	C
	R304 / Masitandane Road	18.0	0.90	B	C	-	B	C
	R304 / Newinbosch Access	23.6	0.90	C	C	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	17.6	0.67	B	B	C	B	-
	R304 / Sokuqala Street	11.1	0.80	B	B	E	A	E
	R304 / Masitandane Road	28.3	0.90	C	C	-	A	D
	R304 / Newinbosch Access	30.9	0.91	C	D	-	B	D

From the Sidra analysis results it is noted that:

- All intersections operate at acceptable LOS conditions.

13.5 Scenario 2 (b): Future Year 2028 Traffic including Development Portion 2 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1) have been implemented by 2028:
  - The R304 has been upgraded to be a dual carriageway with two lanes per direction between the Newinbosch Access and the R44 intersection.

- The R304 / Welgevonden Boulevard intersection has been upgraded.

- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of four-years was applied to the 2023 background traffic to estimate the 2087 background traffic.
- Portion 2 of the Development has been completed and the trips will be distributed on to the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 2 development traffic was added to the expected 2028 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 22.

Table 22: Sidra Results for Scenario 2(b)

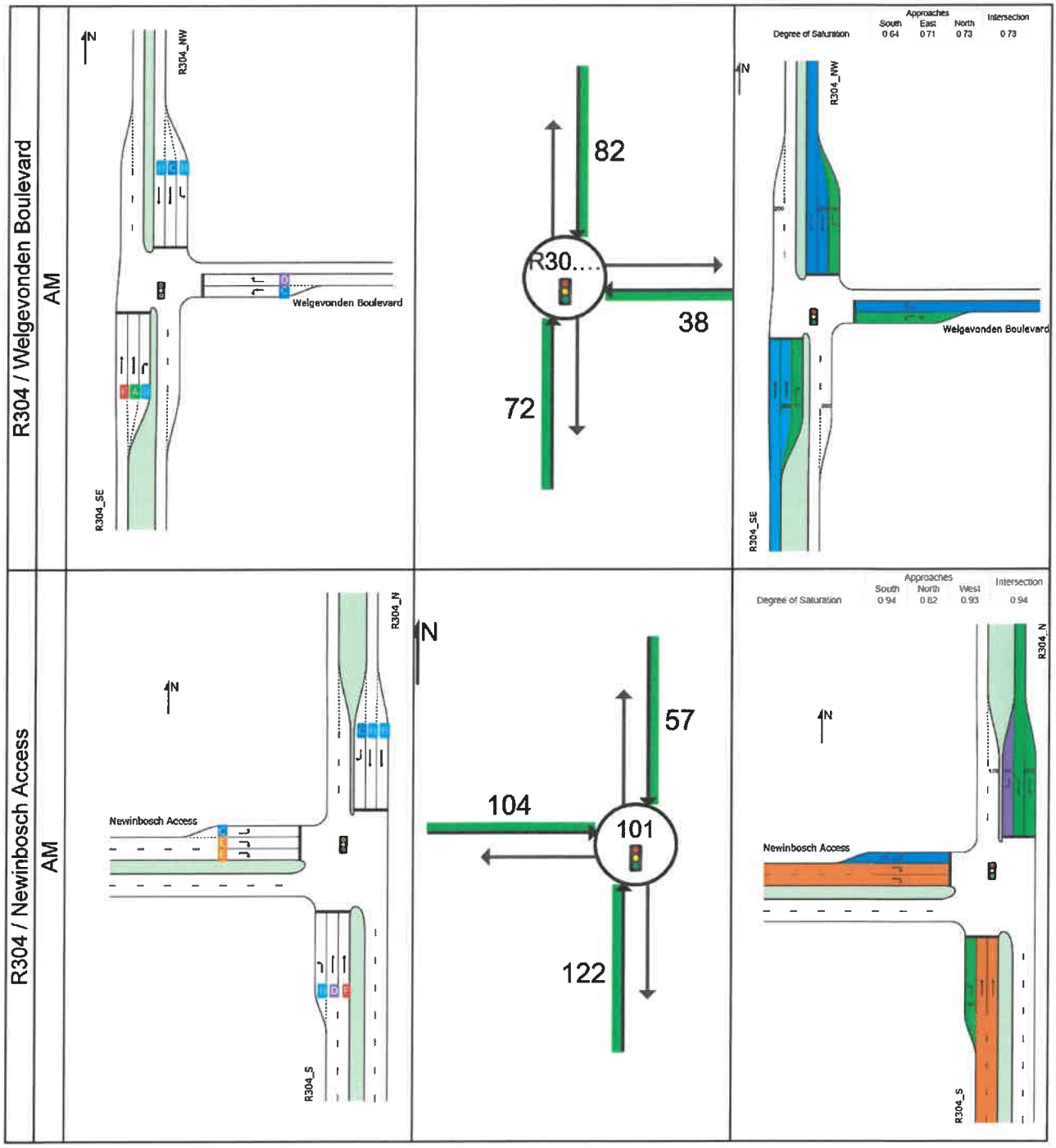
	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	43.4	0.73	D	E	C	C	-
	R304 / Sokuqala Street	10.8	0.70	B	B	D	A	C
	R304 / Masitandane Road	19.5	0.99	B	C	-	B	D
	R304 / Newinbosch Access	45.1	0.94	D	E	-	B	D
PM PEAK	R304 / Welgevonden Boulevard	22.0	0.71	C	C	D	B	-
	R304 / Sokuqala Street	11.6	0.83	B	B	E	A	E
	R304 / Masitandane Road	28.1	0.93	C	D	-	A	D
	R304 / Newinbosch Access	53.9	1.07	D	E	-	B	F

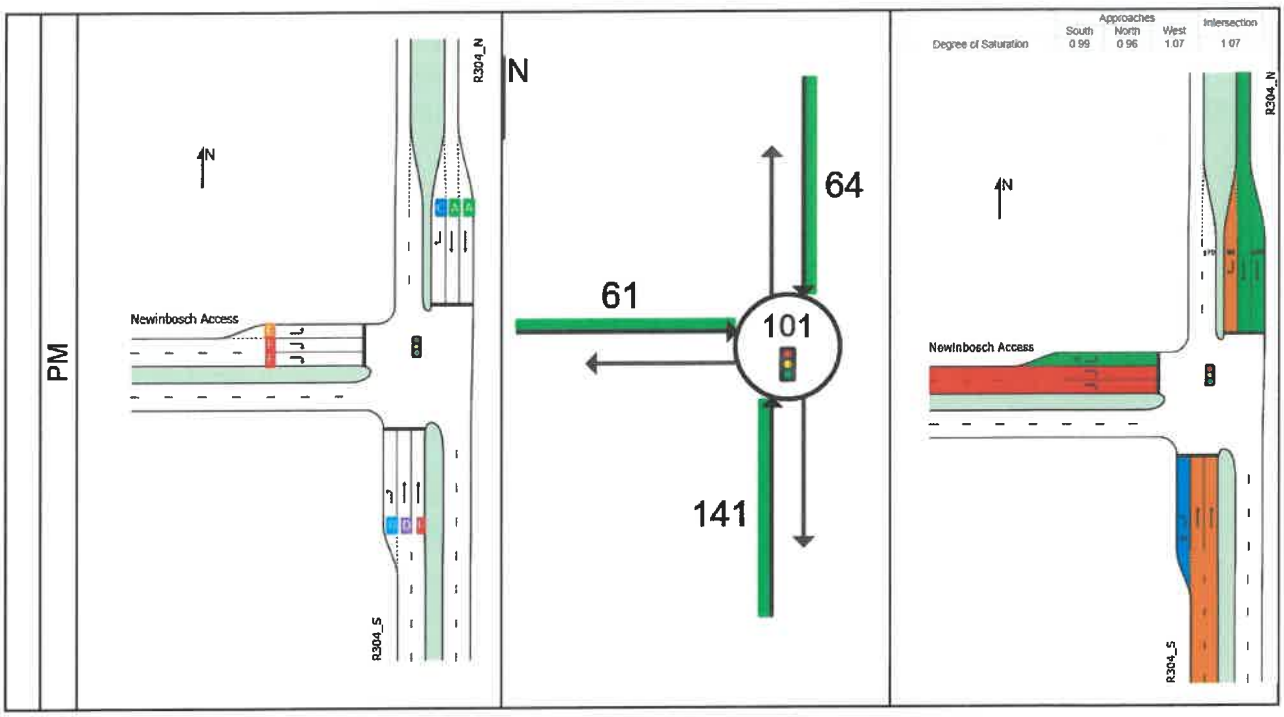
From the Sidra analysis results it is noted that:

- The southern approach of the R304 / Welgevonden intersection was found to operate under LOS E conditions during the AM peak hour.
  A detailled analysis is shown in Table 23: the LOS E conditions for the southern aproach is due to the LOS F conditions of the through lane. The merging lane on the northern lane can be extended, however this only moves the bottle neck further north. Overall the southern approach and intersection still operates under acceptable LOS conditions.
- From the SIDRA results it was found that the introduction of Portion 2 causes the southern approach of the R304 / Newinbosch to operate under LOS F conditions during the PM peak hour. A detailled analysis is shown in Table 23. Mitigation measures to address the performance is discussed in the following section.
- All other intersections with Phase 2 of the Development trips, operate at overall acceptable LOS in in the AM and PM peak hours.

Table 23: Detail Analysis Scenario 2 (b) Future 2028 Total Traffic

		LOS	Queue Length [m]	V/C
		Colour code based on Level of Service LOS A LOS B LOS C LOS D LOS E LOS F	Colour code based on Queue Storage Ratio [< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]	Colour code based on Degree of Saturation [< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]


R304 / Welgevonden Boulevard
AM
N
R304_NW
Welgevonden Boulevard
R304_SE
82
R30....
38
72
Approaches
South
East
North
Intersection
Degree of Saturation
0 64
0 71
0 73
0 73
R304_NW
Welgevonden Boulevard
R304_SE
R304 / Newinbosch Access
AM
N
R304_N
Newinbosch Access
R304_S
57
104
101
122
Approaches
South
North
West
Intersection
Degree of Saturation
0 94
0 82
0 93
0 94
R304_N
Newinbosch Access
R304_S

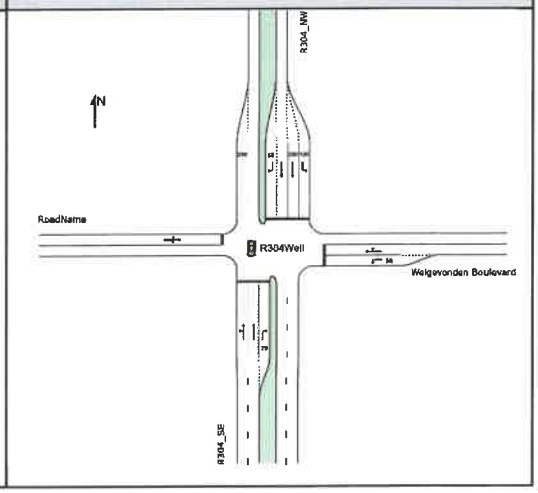


13.5.1 Mitigation Measures

To address the performance of these two intersections it is recommended that the dual carriageway be extended to the R304 / Welgevonden intersection. Table 24 shows the intersection geometry with the extension dualling. In addition, it is proposed to add an addition right turning lane on the north approach of the R304 / Newinbosch Access intersection turning into the Newinbosch Access. The impact of the proposed mitigation measure is shown in Table 25.

As shown, the dualling of the R304 section between the R304 / Welgevonden Boulevard and R304 / Newinbosch Access intersection improves the LOS of the R304 / Newinbosch Access intersection substantially.

Table 24: Intersections geometry after R304 dualling between Welgevonden Boulevard and Newinbosch Access

	Intersecting Roads		Intersection Control Type	Intersection Geometry
1.	R304 (MR00174)	Welgevonden Boulevard	Full Signalised Intersection	

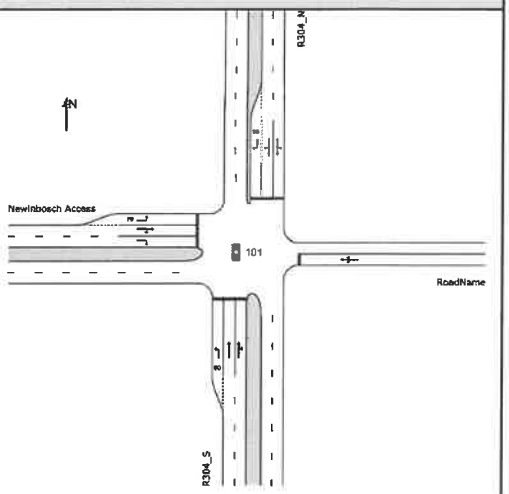
Intersecting Roads			Intersection Control Type	Intersection Geometry
2.	R304	Newinbosch Access	Full Signalised Intersection	

Table 25: Sidra Results for Scenario 2 (a) with Mitigation Measures

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	42.0	0.73	D	E	C	B	-
	R304 / Newinbosch Access	27.2	0.92	C	C	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	21.1	0.71	C	C	D	B	-
	R304 / Newinbosch Access	19.0	0.86	B	B	-	B	C

13.6 Scenario 3 (a): Future Year 2030 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1 and 13.5.1) have been implemented by 2030:
    - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of seven-years was applied to the 2023 background traffic to estimate the 2030 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 26.

Table 26: Sidra Results for Scenario 3 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	26.9	0.72	C	D	C	B	-
	R304 / Sokuqala Street	10.6	0.67	B	B	D	A	C
	R304 / Masitandane Road	20.2	0.90	C	C	-	B	C
	R304 / Newinbosch Access	20.7	0.85	C	B	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	22.5	0.68	C	C	D	B	-
	R304 / Sokuqala Street	11.5	0.82	B	B	E	A	E
	R304 / Masitandane Road	31.7	0.96	C	D	-	A	D
	R304 / Newinbosch Access	16.1	0.75	B	B	-	B	C

From the Sidra analysis results it is noted that:

► All intersections operate at acceptable LOS.

13.7 Scenario 3 (b): Future Year 2030 Traffic including Development Portion 3 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1 and 13.5.1) have been implemented:
    - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of seven-years was applied to the 2023 background traffic to estimate the 2030 background traffic.
- Portion 3 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 3 development traffic was added to the expected 2030 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 27.

Table 27: Sidra Results for Scenario 3 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	73.5	0.76	E	F	C	B	-
	R304 / Sokuqala Street	11.2	0.74	B	B	D	A	C
	R304 / Masitandane Road	23.4	0.98	C	C	-	B	D

	R304 / Newinbosch Access	32.3	0.85	C	C	-	B	D
PM PEAK	R304 / Welgevonden Boulevard	36.4	0.74	D	D	D	B	-
	R304 / Sokuqala Street	14.1	0.88	B	B	E	A	E
	R304 / Masitandane Road	36.9	1.00	D	D	-	A	E
	R304 / Newinbosch Access	22.6	0.91	C	C	-	B	C

From the Sidra analysis results it is noted that:

- The R304 / Welgevonden Boulevard intersection was found to operate at LOS E conditions during the AM peak hour. This is due to the LOS F conditions experienced by the one through lane that ends in a short lane north of the R304 / Welgevonden Boulevard intersection. As said previously, the merging lane on the northern leg of the R304 can be extended, but this only moves the bottleneck further north. A potential mitigation measure is proposed in the following section.
- All other intersections operate at acceptable LOS conditions.

13.7.1 Mitigation Measures

As shown in the SIDRA results, it is clear that a short through lane on the northern leg for vehicles heading north is no longer adequate. The dualing of the R304 may need to be extended beyond the R304 / Welgevonden Boulevard intersection. Potentially to the next intersection or even further north, where the planned Western Bypass will meet the R304 (See Section 9.2 in Figure 22). The intersection configuration can be seen in Table 28. The impact of the proposed mitigation measure during the AM peak hour is shown in Table 29.

Table 28: R304 dualled beyond R304 / Welgevonden Boulevard intersection configuration

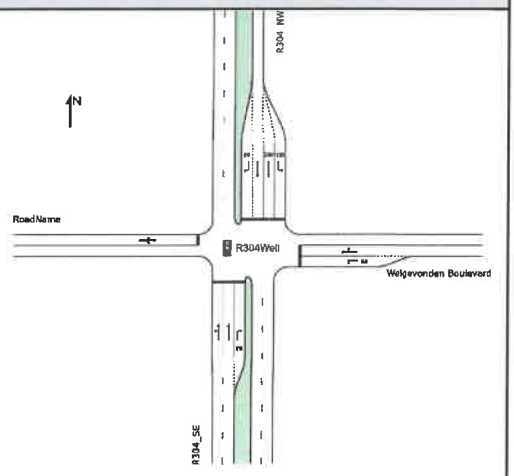
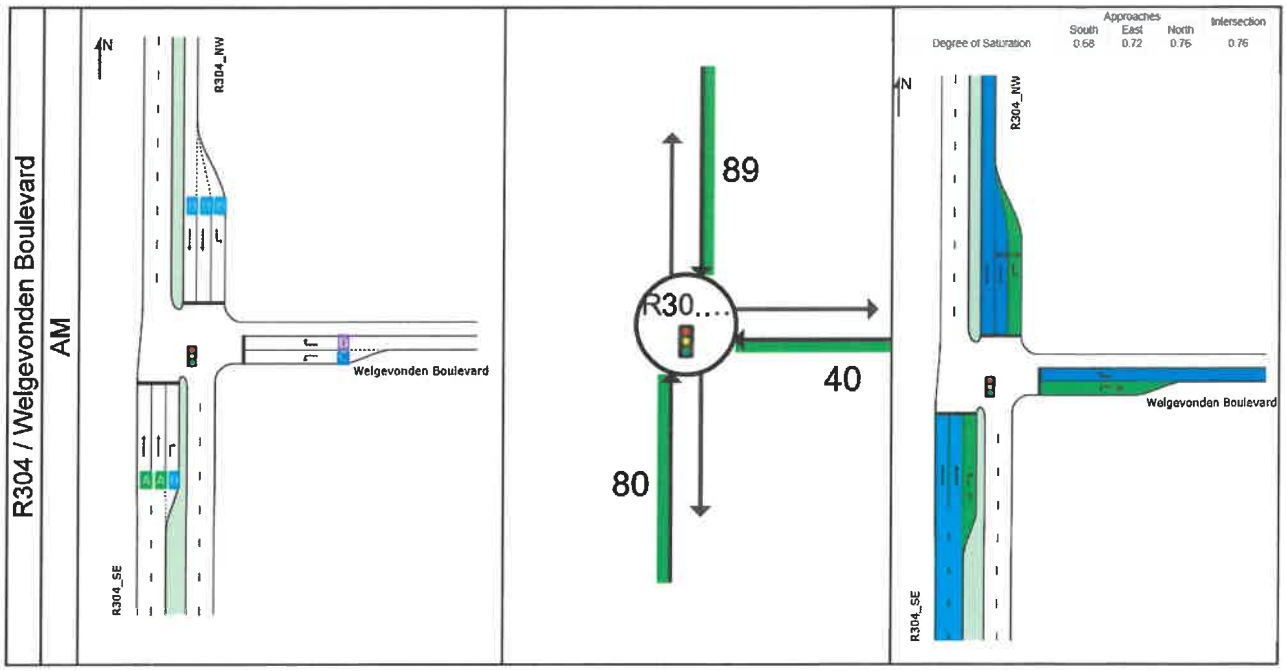
Intersecting Roads			Intersection Control Type	Intersection Geometry
1.	R304 (MR00174)	Welgevonden Boulevard	Full Signalised Intersection	

Table 29: Detail Analysis of R304 / Welgevoden Boulevard Scenario 3 (b) Future 2030 Total Traffic

		LOS	Queue Length [m]	V/C
		Colour code based on Level of Service LOS A LOS B LOS C LOS D LOS E LOS F	Colour code based on Queue Storage Ratio [< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]	Colour code based on Degree of Saturation [< 0.6] [0.6 – 0.7] [0.7 – 0.8] [0.8 – 0.9] [0.9 – 1.0] [> 1.0]



It should be noted that the dualling of the R304 is a temporary relief and that the travel demand on the R304 should be relieved with a more sustainable, long term intervention.

13.8 Scenario 4 (a): Future Year 2031 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1, 13.5.1 and 13.7.1) have been implemented by 2031:
    - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
    - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of eight-years was applied to the 2023 background traffic to estimate the 2031 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 30.

Table 30: Sidra Results for Scenario 4 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	15.3	0.73	B	A	C	B	-
	R304 / Sokuqala Street	10.8	0.68	B	B	D	A	C

	R304 / Masitandane Road	21.0	0.94	C	C	-	B	C
	R304 / Newinbosch Access	21.1	0.85	C	C	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	12.3	0.69	B	A	C	B	-
	R304 / Sokuqala Street	11.7	0.83	B	B	E	A	E
	R304 / Masitandane Road	32.4	0.94	C	D	-	A	E
	R304 / Newinbosch Access	16.3	0.75	B	B	-	B	C

From the Sidra analysis results it is noted that:

- All intersections operate at acceptable LOS.

13.9 Scenario 4 (b): Future Year 2031 Traffic including Development Portion 4 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1, 13.5.1 and 13.7.1) have been implemented:
  - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of eight-years was applied to the 2023 background traffic to estimate the 2031 background traffic.
- Portion 4 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 4 development traffic was added to the expected 2031 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 31.

Table 31: Sidra Results for Scenario 4 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	16.4	0.78	B	B	C	B	-
	R304 / Sokuqala Street	11.5	0.76	B	B	D	A	C
	R304 / Masitandane Road	22.9	0.99	C	C	-	B	D
	R304 / Newinbosch Access	38.0	0.94	D	C	-	C	D
PM PEAK	R304 / Welgevonden Boulevard	12.7	0.75	B	A	C	B	-
	R304 / Sokuqala Street	16.4	0.90	B	C	E	A	E

	R304 / Masitandane Road	39.0	0.96	D	D	-	B	E
	R304 / Newinbosch Access	21.3	0.92	C	B	-	B	D

From the Sidra analysis results it is noted that:

- All intersections operate at acceptable LOS.

13.10 Scenario 5 (a): Future Year 2033 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1, 13.5.1 and 13.7.1) have been implemented by 2033:
  - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of ten-years was applied to the 2023 background traffic to estimate the 2033 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 32.

Table 32: Sidra Results for Scenario 5 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	15.7	0.75	B	A	C	B	-
	R304 / Sokuqala Street	11.7	0.71	B	B	D	A	C
	R304 / Masitandane Road	23.7	0.94	C	D	-	B	C
	R304 / Newinbosch Access	21.6	0.79	C	B	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	12.5	0.70	B	A	C	B	-
	R304 / Sokuqala Street	12.5	0.85	B	B	E	A	E
	R304 / Masitandane Road	35.1	0.98	D	D	-	A	E
	R304 / Newinbosch Access	16.7	0.73	B	B	-	B	D

From the Sidra analysis results it is noted that:

- All intersections operate at acceptable LOS.

13.11 Scenario 5 (b): Future Year 2033 Traffic including Development Portion 5 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1, 13.5.1 and 13.7.1) have been implemented:
    - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
    - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of ten-years was applied to the 2023 background traffic to estimate the 2033 background traffic.
- Portion 5 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 5 development traffic was added to the expected 2033 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 33.

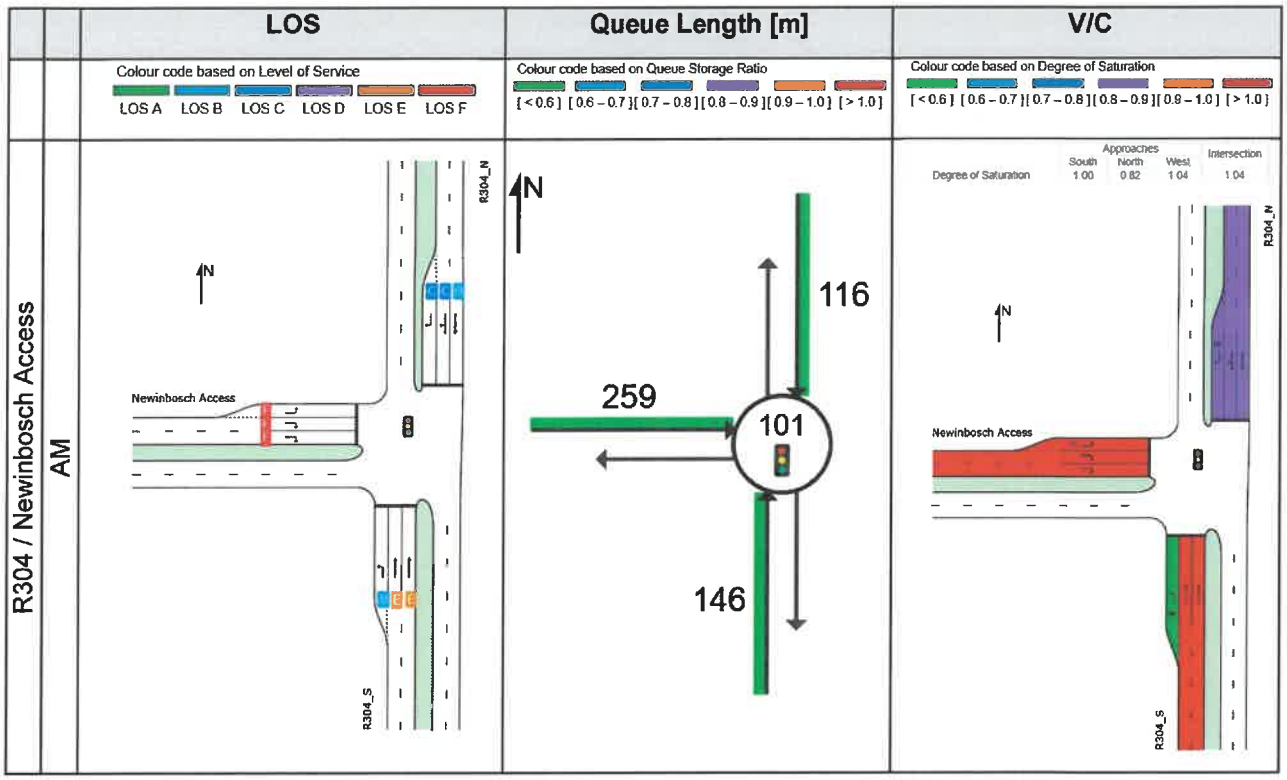
Table 33: Sidra Results for Scenario 5 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	16.7	0.75	B	B	C	B	-
	R304 / Sokuqala Street	12.1	0.79	B	B	D	A	B
	R304 / Masitandane Road	23.9	0.93	C	C	-	B	D
	R304 / Newinbosch Access	56.8	1.04	E	D	-	C	F
PM PEAK	R304 / Welgevonden Boulevard	12.8	0.72	B	A	C	B	-
	R304 / Sokuqala Street	25.6	0.95	C	D	E	A	E
	R304 / Masitandane Road	41.6	0.98	D	E	-	B	E
	R304 / Newinbosch Access	24.0	0.93	C	C	-	B	D

From the Sidra analysis results it is noted that:

- The majority of the intesections operate at acceptable LOS conditions.
- It is noted the R304 / Newinbosch Access intersection operates at a LOS E during the AM Peak hours. Due to the LOS F experienced on the western approach. A detailed analysis of this intersection during the AM Peak is provided in Table 34. Mitigation measures are proposed in the following section.

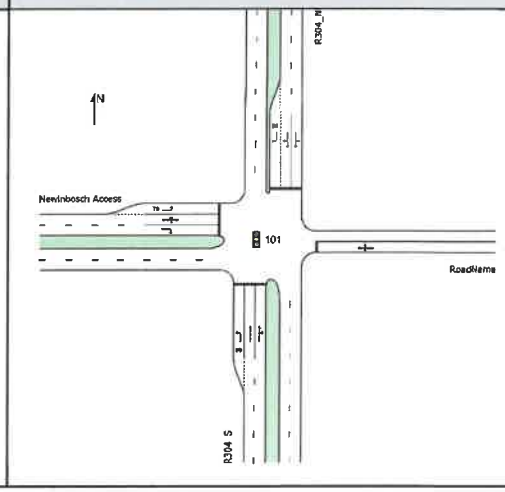
Table 34: Detail Analysis of R304 / Newinbosch Access Scenario 5 (b) Future 2033 Total Traffic



13.11.1 Mitigation Measures

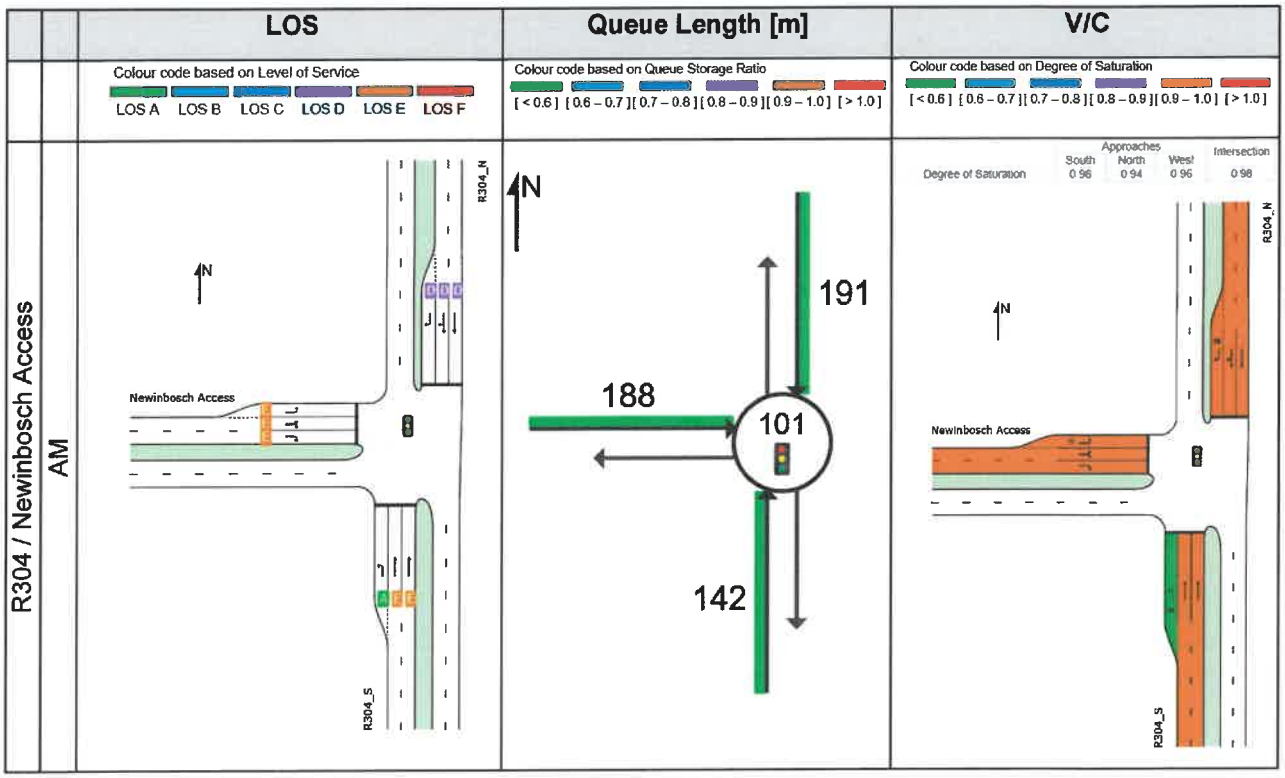
From the Sidra results above, it is evident that the existing Newinbosch intersection operates below acceptable conditions once Portion 5 of the Development reaches completion. This intersection will serve as an access point to Newinbosch and to the Development. It is proposed that a double left turn lane be provided on the western approach of the Newinbosch Access. Since the through movement is negligible this lane will predominantly act as a left and right turning lane. Table 35 shows the proposed configuration for the intersection.

Table 35: Additional Left turn R304 / Newinbosch Access intersection configuration

Intersecting Roads			Intersection Control Type	Intersection Geometry
1.	R304 (MR00174)	Newinbosch Access	Full Signalised Intersection	

Providing an additional left turning opportunity provides some improvement in the intersection's performance. Table 36 shows a detailed analysis of the intersection's performance with the proposed mitigation measure during the problematic AM Peak hour. As shown all movements experience LOS better than F, with the overall LOS of the intersection improving from LOE E to LOS D during the AM Peak hour.

Table 36: Detail Analysis of R304 / Newinbosch Access Scenario 5 (b) Future 2033 Total Traffic with Mitigation Measure



13.12 Scenario 6 (a): Future Year 2034 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1, 13.5.1, 13.7.1 and 13.11.1) have been implemented by 2034:
    - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
    - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
    - The layout of the R304 / Masitandane Road intersection has been upgraded.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7%% annual growth rate for a period of eleven-years was applied to the 2023 background traffic to estimate the 2034 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 37.

Table 37: Sidra Results for Scenario 6 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	15.9	0.76	B	A	C	B	-
	R304 / Sokuqala Street	11.8	0.71	B	B	D	A	C
	R304 / Masitandane Road	19.2	0.87	B	C	-	B	C
	R304 / Newinbosch Access	21.8	0.79	C	B	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	12.7	0.71	B	A	C	B	-
	R304 / Sokuqala Street	13.2	0.87	B	B	E	A	E
	R304 / Masitandane Road	37.6	0.99	D	D	-	A	E
	R304 / Newinbosch Access	17.1	0.79	B	B	-	B	C

From the Sidra analysis results it is noted that:

- All other intersections operate at acceptable LOS.

13.13 Scenario 6 (b): Future Year 2034 Traffic including Development Portion 6 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1, 13.5.1, 13.7.1, and 13.11.1) have been implemented:
  - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
  - The Future Proposed Access from the R304 to the Development has been built.
  - The layout of the R304 / Masitandane Road intersection has been upgraded.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of eleven-years was applied to the 2023 background traffic to estimate the 2034 background traffic.
- Portion 6 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 6 development traffic was added to the expected 2034 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 38.

Table 38: Sidra Results for Scenario 6 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	17.0	0.76	B	B	C	B	-
	R304 / Sokuqala Street	13.3	0.81	B	B	D	A	D
	R304 / Masitandane Road	24.6	0.94	C	C	-	B	D
	R304 / Newinbosch Access	59.8	1.02	E	E	-	C	F
PM PEAK	R304 / Welgevonden Boulevard	12.9	0.73	B	A	C	B	-
	R304 / Sokuqala Street	29.3	0.96	C	D	E	A	E
	R304 / Masitandane Road	44.7	0.99	D	E	-	B	E
	R304 / Newinbosch Access	30.0	0.95	C	D	-	B	D

From the Sidra analysis results it is noted that:

- The R304 / Newinbosch Acess intersection western approach operates under LOS F conditions during the AM and LOS D conditions durng the PM peak. Overall the intersection operates under LOS E and LOS D during the AM and PM peak respectively. Mitigation measure will be proposed in the section that follows.
- It is noted that the eastern and western approaches of the R304 / Sokuqala Street intersection operates under LOS E conditions. The number of vehicles experiencing these conditions are insignificant, approximately 4% of the total vehicles travelling through this intersection, consequnetly no mitigation measure will be proposed.
- All other intesections operate at overall acceptable LOS conditions.

13.13.1 Mitigation Measures

From the Sidra results above it is evident that the existing Newinbosch intersection, which will act as the access point for the Newinbosch development and for the Development, operates below acceptable conditions once the Development reaches Portion 6. Thus, once the development reaches this stage it is proposed that the potential for an additional access point be investigated. An additional access will provide an alternative route redistributing traffic away from the Newinbosch intersection.

As part of the current development plan, provision is made for potential future roads linking the Northern extension with the existing Kayamandi. Provision is also made for a potential future link with the R304. The provision for the future links is shown in Appendix B.

The impact of introducing one of the potential links between the planned Northern Extension and the existing Kayamandi in diverting some of the Development trips away from the Newinbosch access was analysed in Sidra. For the Sidra analysis it was assumed that:

- 30% of the light vehicle trips going out via the Newinbosch access will be redistributed to the new link. Of the 30%, 20% will utilise the R304 / Sokuqala Street intersection, 5% will use the R304 / Masitandane Road intersection and 5% will be absorbed/redistributed in the existing Kayamandi network.
- 20% of the heavy vehicle trips going out will be redistributed to the new link. Of the 20%, 10% will utilise the R304 / Sokuqala Street intersection, 5% will use the R304 / Masitandane Road intersection and 5% will be absorbed/redistributed in the existing Kayamandi network.
- The reverse will apply for vehicles coming into the development.

The result of the implementing this mitigation is summarised below in Table 39.

Table 39: Sidra Results for Scenario 6 (b) with Mitigation Measures

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	17.0	0.76	B	B	C	B	-
	R304 / Sokuqala Street	15.7	0.81	B	B	D	B	C
	R304 / Masitandane Road	33.3	0.97	C	D	-	B	D
	R304 / Newinbosch Access	43.1	0.97	D	D	-	C	E
PM PEAK	R304 / Welgevonden Boulevard	12.9	0.73	B	A	C	B	-
	R304 / Sokuqala Street	25.2	0.94	C	C	E	A	E
	R304 / Masitandane Road	41.5	0.97	D	D	-	B	E
	R304 / Newinbosch Access	26.0	1.02	C	C	-	B	D

From the Sidra analysis results it is noted that:

- After introducing a additional access, the R304 / Newinbosch Access operate at an overall acceptable LOS for both AM and PM peak hours.
- The other intersections operate at acceptable overall LOS conditions.

13.14 Scenario 7 (a): Future Year 2035 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1, 13.5.1, 13.7.1 and 13.11.1) have been implemented by 2035:
  - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7%% annual growth rate for a period of twelve-years was applied to the 2023 background traffic to estimate the 2035 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 37.

Table 40: Sidra Results for Scenario 7 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	16.1	0.77	B	A	C	B	-
	R304 / Sokuqala Street	12.0	0.72	B	B	D	A	C
	R304 / Masitandane Road	27.1	0.97	C	D	-	B	D
	R304 / Newinbosch Access	22.3	0.81	C	B	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	12.8	0.67	B	A	C	B	-
	R304 / Sokuqala Street	14.3	0.88	B	B	E	A	E
	R304 / Masitandane Road	37.6	0.98	D	D	-	B	D
	R304 / Newinbosch Access	17.0	0.80	B	B	-	B	D

From the Sidra analysis results it is noted that:

- All intersections operate at acceptable LOS.

13.15 Scenario 7 (b): Future Year 2035 Traffic including Development Portion 7 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1, 13.5.1, 13.7.1, 13.11.1 and 13.13.1) have been implemented:
  - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
  - An additional access between the Development and the existing Kayamandi has been implemented.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of twelve-years was applied to the 2023 background traffic to estimate the 2035 background traffic.
- Portion 7 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 7 development traffic was added to the expected 2035 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 38.

Table 41: Sidra Results for Scenario 7 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	17.2	0.79	B	B	C	B	-
	R304 / Sokuqala Street	18.3	0.83	B	C	D	B	C
	R304 / Masitandane Road	28.4	0.94	C	C	-	C	D
	R304 / Newinbosch Access	50.6	1.03	D	D	-	C	E
PM PEAK	R304 / Welgevonden Boulevard	13.1	0.74	B	A	C	B	-
	R304 / Sokuqala Street	34.7	0.97	C	D	E	A	E
	R304 / Masitandane Road	45.8	0.99	D	E	-	B	E
	R304 / Newinbosch Access	21.0	0.86	C	B	-	B	D

From the Sidra analysis results it is noted that:

- All intesections operate at overall acceptable LOS conditions.
- However, some of the legs of the intersections starts to operate close to or beyond their capacity.

13.16 Scenario 8 (a): Future Year 2036 Traffic without Development Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in 13.2.1, 13.5.1, 13.7.1 and 13.11.1) have been implemented by 2036:
  - The R304 has been upgraded to be a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7%% annual growth rate for a period of thirteen-years was applied to the 2023 background traffic to estimate the 2036 background traffic.
- For all the signalised intersection a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

Using the expected traffic volumes, the study intersections were analysed in Sidra. The results are summarised in Table 37.

Table 42: Sidra Results for Scenario 8 (a)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	16.4	0.79	B	A	C	B	-
	R304 / Sokuqala Street	12.1	0.73	B	B	D	A	C
	R304 / Masitandane Road	28.8	0.98	C	D	-	B	D
	R304 / Newinbosch Access	22.7	0.82	C	C	-	B	C
PM PEAK	R304 / Welgevonden Boulevard	12.9	0.73	B	A	C	B	-
	R304 / Sokuqala Street	15.6	0.89	B	B	E	A	E
	R304 / Masitandane Road	40.1	0.99	D	D	-	B	E
	R304 / Newinbosch Access	17.3	0.77	B	B	-	B	D

From the Sidra analysis results it is noted that:

- All intersections operate at overall acceptable LOS.

13.17 Scenario 8 (b): Future Year 2036 Traffic including Development Portion 8 Traffic

The assumptions made when analysing this scenario are:

- The proposed mitigation measures (discussed in Section 13.2.1, 13.5.1, 13.7.1, 13.11.1 and 13.13.1) have been implemented:
  - The R304 has been upgraded to a dual carriageway with two lanes per direction between Welgevonden Boulevard and the R44 intersection.
  - The R304 has been dualled beyond the R304 / Welgevonden Boulevard intersection.
  - An additional access between the Development and the existing Kayamandi has been implemented.
- The previous planned developments Oakhills, Cloetesville and Newinbosch have been implemented and the access to the Newinbosch development is operational. The generated traffic has been added to the network.
- A 1.7% annual growth rate for a period of thirteen-years was applied to the 2023 background traffic to estimate the 2036 background traffic.
- Portion 8 of the Development has been completed and the trips are distributed onto the road network.
- For all the signalised intersections a cycle time of 120 seconds was assumed with Sidra's optimum cycle time setting enabled to determine the optimum phase timings

The Portion 8 development traffic was added to the expected 2036 background traffic and the study intersections analysed in Sidra. The results are summarised in Table 38.

Table 43: Sidra Results for Scenario 8 (b)

	Intersection	Ave. Delay [s]	v/c Ratio	Overall LOS	South	East	North	West
AM PEAK	R304 / Welgevonden Boulevard	18.0	0.80	B	B	D	B	-
	R304 / Sokuqala Street	22.4	0.89	C	C	D	B	C
	R304 / Masitandane Road	31.4	0.99	C	D	-	C	D
	R304 / Newinbosch Access	56.5	1.02	E	E	-	D	E
PM PEAK	R304 / Welgevonden Boulevard	13.3	0.76	B	A	C	B	-
	R304 / Sokuqala Street	40.0	0.99	D	E	E	A	E
	R304 / Masitandane Road	50.7	1.00	D	E	-	B	E
	R304 / Newinbosch Access	26.0	0.93	C	C	-	B	D

From the Sidra analysis results it is noted that:

- The R304 / Newinbosch Access intersection operates close to capacity at LOS E conditions during the AM peak hour.
- All other intesections operate at overall acceptable LOS conditions.
- However, some of the legs of the intersections starts to operate close to or beyond their capacity.
- Mitigation measures are discussed in the following section.

13.17.1 Mitigation measures

At this point in time with the final portion of the development the majority of the mitigation measures in terms of improving intersection capacity has been implemented. The capacity of the R304 comes into question at this stage again, especially during the PM Peak hour. Table 44 shows the Peak hour link volumes along the R304 during the AM and PM peak hour. As shown, during the AM Peak hour the R304 is almost at capacity for vehicles travelling into Stellenbosch. During the PM Peak hour the R304 operates beyond capacity travelling out of Stellenbosch towards the N1.

Table 44: Peak hour link volumes (2035)

Intersection	Assumed capacity (veh/h/ln)	2035 Peak hour link volume per lane along the R304			
		AM		PM	
		To Stellenbosch	To N1	To Stellenbosch	To N1
Welgevonden Boulevard / R304	1200	910	1070	900	1050
Newinbosch Access / R304	1200	910	970	880	1310
Sokuqala Street / R304	1200	1150	850	770	1320
Masitandane Road / R304	1200	1170	920	770	1280

In terms of the above analysis the following can be considered:

- To alleviate pressure on the R304 / Newinbosch Access intersection the potential of providing another additional access to the Kayamandi Northern extension. This can be ether via

- An additional link between the Northern Extension and the existing Kayamandi for which the current concept layout plan makes provision (See Appendix B) or,
- An additional access may be needed from the R304.

  As mentioned above, once the final portion (Portion 8) of the development is implemented, which is planned for 2036, an additional access point to the Kayamandi Northern Extension from the R304 may be required. A potential location for such an access off the R304 could be considered as shown in the current development plan (Appendix B). Appendix B shows that provision is made for a 10m wide road reserve across REM183/37 and REM81/8 , this may require expropriation or the registration of a Right of Way servitude.

  In preparing this TIA, all options were considered and tested including the potential provision of such a link. However, the implementation of this access point will depend on the traffic conditions and road network configuration at the time, when Portion 8 is constructed in 2036. The implementation will thus be guided by subsequent traffic analysis as the development implementation progresses

► To relieve presure on the R304, an network wide intervention or solution must be consider. Potential interventions such as:

- The Western Bypass (see Section 9.2) can be considered at this stage. The impact which the Western Bypass will have on the travel demand on the R304 is outside the scope of this study. However, the addition of a link road such as the Western Bypass will be a lucrative alternative road for motorists currently travelling to areas such as Jamestown, Technopark, Somerset West, etc. located south of Stellenbosch. Redistributing traffic away from the R304 and relieving congestion.

14 Access Management

The newly constructed Newinbosch Access, via Link Road, will be used as the primary access route into the Development. In the current layout plan provision is made for an additional access to the Kayamandi Northern Extension. The provision for these potential future accesses is shown in Appendix B.

As shown in the layout plan provision is made for two future links across the canal between the existing Kayamandi and the Northern Extension. These potential links will provide additional vehicular access from the existing Kayamandi to the planned Kayamandi Northern Extension Development. These links will relieve pressure off the Newinbosch Access by redistributing traffic away to alternative accesses, alleviating the traffic volumes at this intersection. Provision is made for an additional future access off the R304. This access may be needed once the development is complete. But as mentioned previously, the implementation of such a link will be dependant to future traffic analysis and the road network at that time.

The Kayamandi Northern Extension and the Newinbosch developments have been planned such that it can connect and link up with Welgevonden Boulevard (should it be extended beyond the R304 / Welgevonden Boulevard intersection). Thus, future accesses to these developments, off the Welgevonden Boulevard extension may be possible.

The existing and potential future intersections along the R304, between Welgevonden Boulevard and Masitandane Road, could be configured as follows:

- ► R304/Welgevonden Boulevard – an existing signalised intersection
- ► R304/Newinbosch Access Road – an existing signalised intersection
- ► R304/ Potential Future Access Road – a proposed signalised intersection (assumed to be a signalised intersection)
- ► Sokuqala Street – an existing signalised intersection
- ► R304/Masitandane Road – an existing signalised intersection

The distances between these intersections are shown in Figure 25.

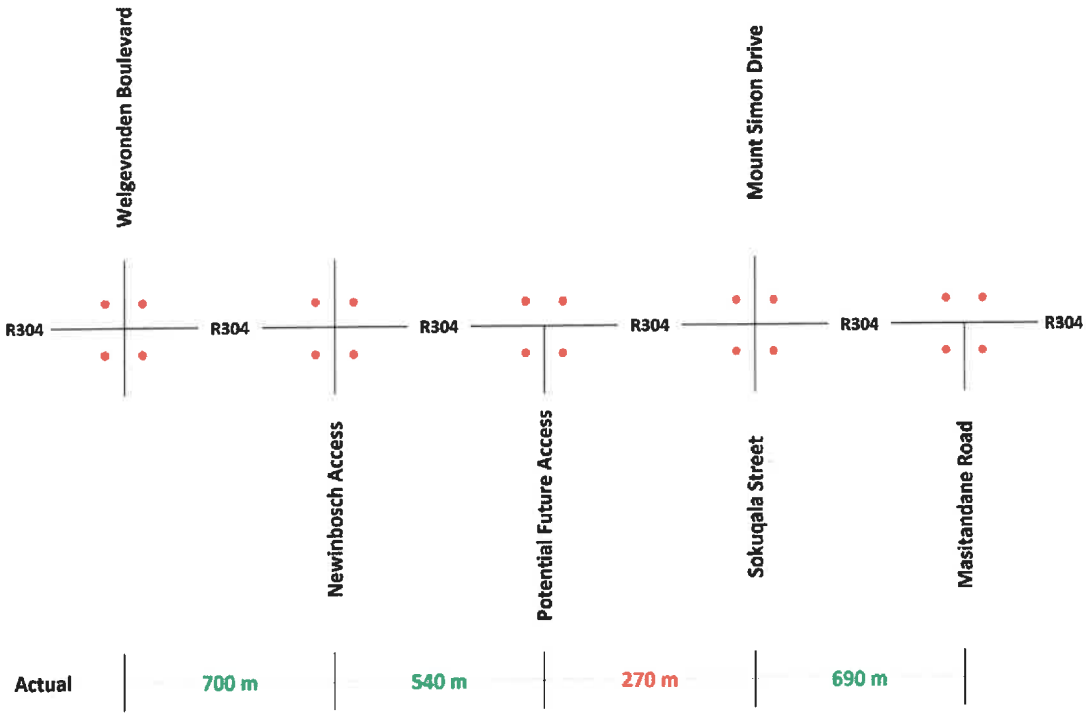


Figure 25: Spacing between Intersections

The section of the R304, between Welgevonden Boulevard and Masitandane Road, is a Class 2 road in an existing suburban development environment. The table below, from the AMG, provides the density characteristics of different roadside development environments.

Table 45: Roadside Development Environment Characteristics

Roadside development environment	Floor Area Ratio (m^2 of development per m^2 of land area)	Bulk (m^2) Building height du/ha (pp/ha)[18]
CBD	> 1	10 000 m^2/ha @ 50% coverage = 2 × storey @ 30% coverage = 3 × storey Residential = > gross 100 du/ha (400 pp/ha)
Intermediate	0.3–1	3 000 m^2 – 10 000 m^2/ha @ 50% coverage = 1 × storey Residential = gross 25–100 du/ha (100–400 pp/ha)
Suburban	0.1–0.3	1 000 m^2 – 3 000 m^2/ha Single/double storey Residential = gross < 10 du/ha
Boundary of urban area/defined Urban Edge		
Semi-rural	< 0.1	
Rural	< 1 bldg/10 ha	

As per this table, once Newinbosch and the Kayamandi Northern Extension has been developed, the roadside development environment could be reclassified as an intermediate development environment. The assumed density of the Kayamandi Northern Extension being 100du/ha.

The Provincial Access Management Guidelines spacing requirements between signalised intersections along a Class 2 road is shown in Table 46.

Table 46: Minimum spacing of signalised intersections along a Class 2 road (Source: AMG 2020)

Roadside development environment	Road class Minimum spacing (m)		
	Class 2	Class 3	Class 4
CBD	370	270	210
Intermediate	540	370	270
Suburban	800	540	370
Semi-rural[16]	1 200	800	540

Considering the actual and required distances between the intersections along the R304, the distances between signalised intersections will not comply with the AMG and the location of the Potential Future Access (the second access to the Development) may not be feasible. However, Stellenbosch Municipality is planning to negotiate with Province to relook at Province's jurisdiction and for the Municipality to become the road authority for the section of the R304 from the Welgevoden Boulevard to the R44. This will allow the Municipality to determine what intersection spacing is sufficient.

15 Non-Motorised Transport and Public Transport

Residents of Kayamandi relies primarily on NMT and PT as a transport mode. It is therefore essential that the internal roads of the Development cater for these modes.

The internal roads of the Development will have road reserves ranging from 8m wide residential streets to a 16m wide "primary boulevard". The proposed cross section of the internal roads for the development, showing the NMT facilities, are shown in the figures below:

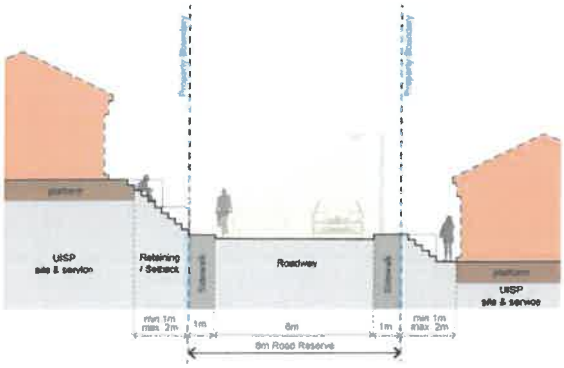


Figure 26: Residential Street (8m road reserve)

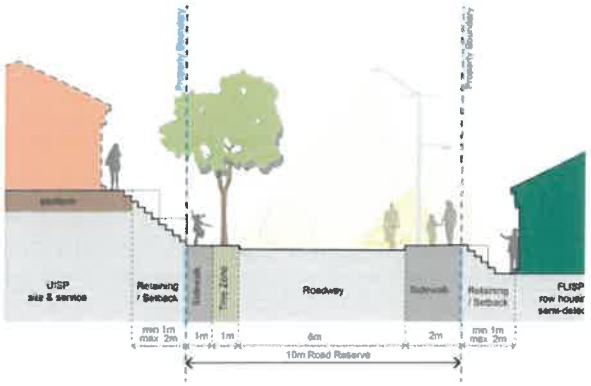


Figure 27: Tertiary Road (10m road reserve)

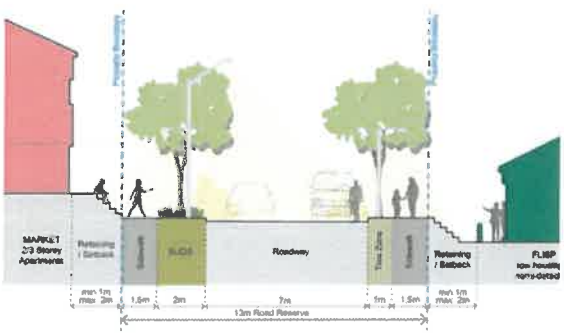


Figure 28: Secondary Road (13m road reserve)

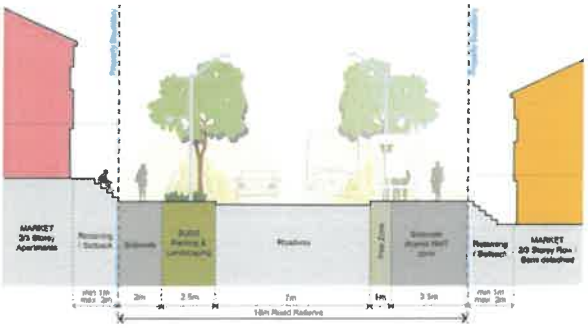


Figure 29: Primary Boulevard (16m road reserve)

It is recommended that NMT facilities along the external network (shown in Chapter 7) be extended along the Link Road to tie into the internal roads and the NMT facilities provided as part of the Development.

A site has been identified to be the future taxi rank, this is in addition to the existing taxi rank on the corner of the R304 and Masitandane intersection. The proposed locations of the new taxi rank are shown in the concept layout plan in Appendix B.. As shown, it is part of Phase 11 of the Kayamandi Northern Extension Development, which falls under Portion 6 of the current planned implementation phasing (See Table 7).

UDS Africa was appointed by Stellenbosch Municipality to conduct an in detail NMT Masterplan for Kayamandi and the Kayamandi Northern Extension Development.

16 Traffic Calming

Considering the slope of the development site, speeding of vehicles is a risk that should be considered and mitigated. This has been taken into consideration during the development of the Site Development Plan; instead of the boulevard being a straight road, the road's geometry was designed to slow vehicles down, effectively acting as a traffic calming measure. It is proposed that other measures such as raised intersections and pedestrian crossings should be implemented.

17 Road Infrastructure Required

The road infrastructure upgrades required before Northern Extension can be implemented, dubbed Portion 1A upgrades, are shown in Figure 30. Portion 1A are refers to the external road infrastructure upgrades that are required regardless of which phase/portion of the development is implemented first. These upgrades are required as a result of the growth in existing background traffic. These upgrades should therefor be implemented before the development of the Kayamandi Northern Extension can commence. Basic concept drawings showing the approximate new road surface (indicated in yellow) is provided in Appendix E.

The road infrastructure upgrades required to support the remaining portions of the development are shown in Figure 31. These upgrades are also broken down per portion of the developments, as they are needed as the development is implemented. Basic concept plans for the proposed upgrades for the entire development are also provided in Appendix E.

Table 47 summarises the infrastructure required per portion of the development's implementation and per year as the development portions are implemented as discussed in Section 11.2.

Table 47: Summary of infrastructure required for Kayamandi Northern Extension

Scenario	Traffic	Infrastructure	Reference
2023			
0	2023 Traffic	• None	
2026			
1 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A Upgrades: • Upgrade R304 / Welgevonden Boulevard intersection. • Dual R304 between R304 / Newinbosch intersection and the R44 / R304 intersection.	Table 18 and Figure 30
1 (b)	As per Scenario 1(a) + Kayamandi Northern Extension Portion 1	1A Upgrades.	Table 18
2028			
2 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A Upgrades	Table 18
2 (b)	As per Scenario 2(a) + Kayamandi Northern Extension Portion 2	1A Upgrades + A2 Upgrades: • Dualing of the R304 between the Newinbosch access and Welgevonden Boulevard	Table 24
2030			
3 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A and A2 Upgrades	Table 24
3 (b)	As per Scenario 3(a) + Kayamandi Northern Extension Portion 3	1A and A2 Upgrades + A3 Upgrades: • Extend dualling of the R304 beyond Welgevonden Boulevard.	Table 28
2031			
4 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2 and A3 Upgrades	Table 28
4 (b)	As per Scenario 4(a) + Kayamandi Northern Extension Portion 4	1A, A2 and A3 Upgrades	Table 28
2033			
5 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2 and A3 Upgrades	Table 28
5 (b)	As per Scenario 5(a)	1A, A2 and A3 Upgrades +	Table 28

Scenario	Traffic	Infrastructure	Reference
	+ Kayamandi Northern Extension Portion 5	A5 Upgrades: • Provide additional left turn lane for the western approach of the R304 / Newinbosch Access intersection.	Table 35
		2034	
6 (a)	Escalated 2023Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3 and A5 Upgrades	Table 28 Table 35
6 (b)	As per Scenario 6(a) + Kayamandi Northern Extension Portion 6	1A, A2, A3 and A5 Upgrades + A6 Upgrades: • Provide additional access to the Kayamandi Northern Extension.	Table 28 Table 35 Section 13.13.1
		2034	
7 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3, A5 and A6 Upgrades	Table 28 Table 35 Section 13.13.1
7 (b)	As per Scenario 7(a) + Kayamandi Northern Extension Portion 7	1A, A2, A3, A5 and A6 Upgrades	Table 28 Table 35 Section 13.13.1
		2034	
8 (a)	Escalated 2023 Traffic + Newinbosch + Oakhills + Cloetesville	1A, A2, A3, A5 and A6 Upgrades	Table 28 Table 35 Section 13.13.1
8 (b)	As per Scenario 8(a) + Kayamandi Northern Extension Portion 8	1A, A2, A3, A5 and A6 Upgrades + A8 Upgrades: • Additional access to be considered. • Network wide solution(s) be considered, like the Western Bypass	Table 28 Table 35 Section 13.13.1 Section 13.17.1

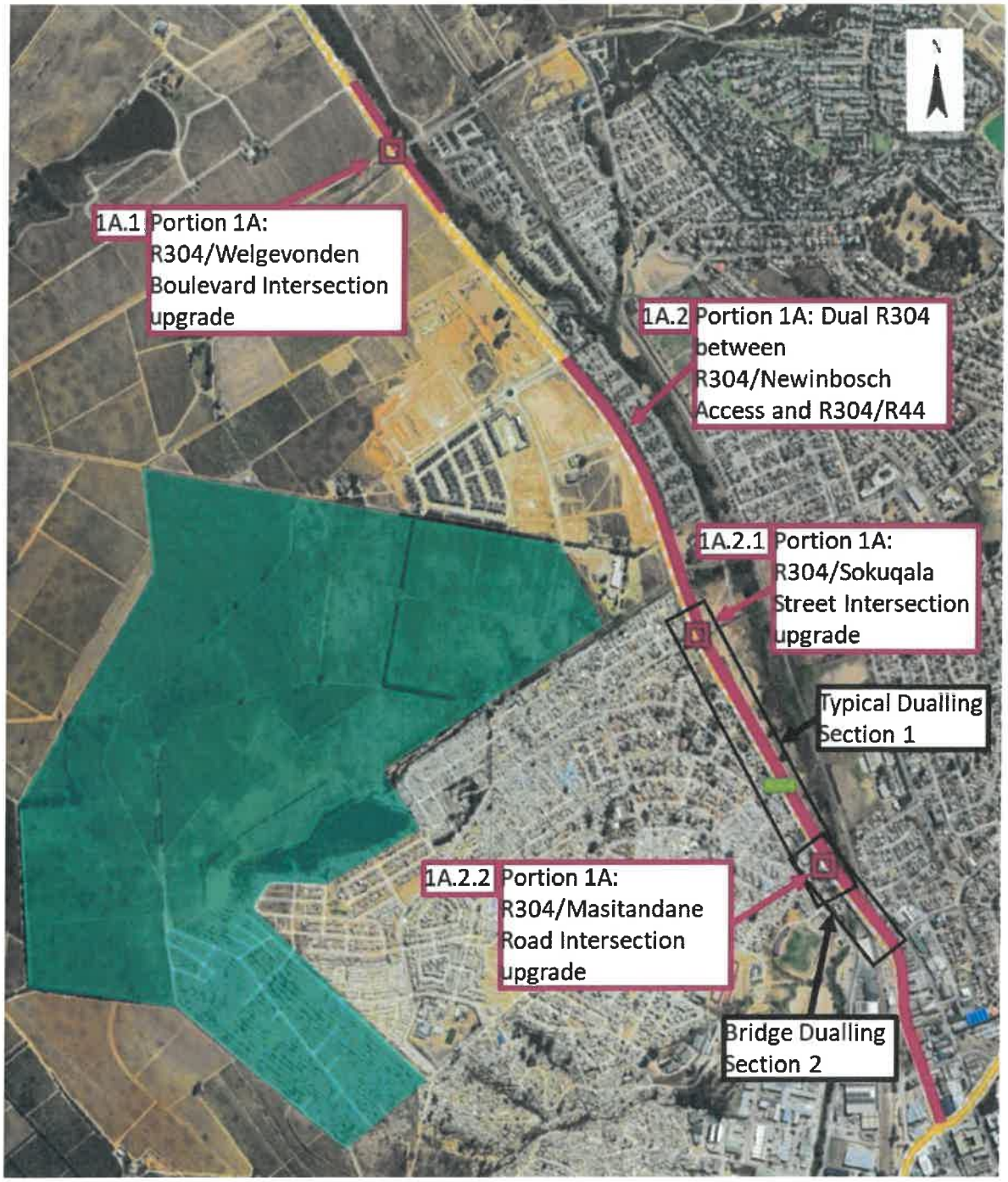


Figure 30: Portion 1A Required Road Infrastructure

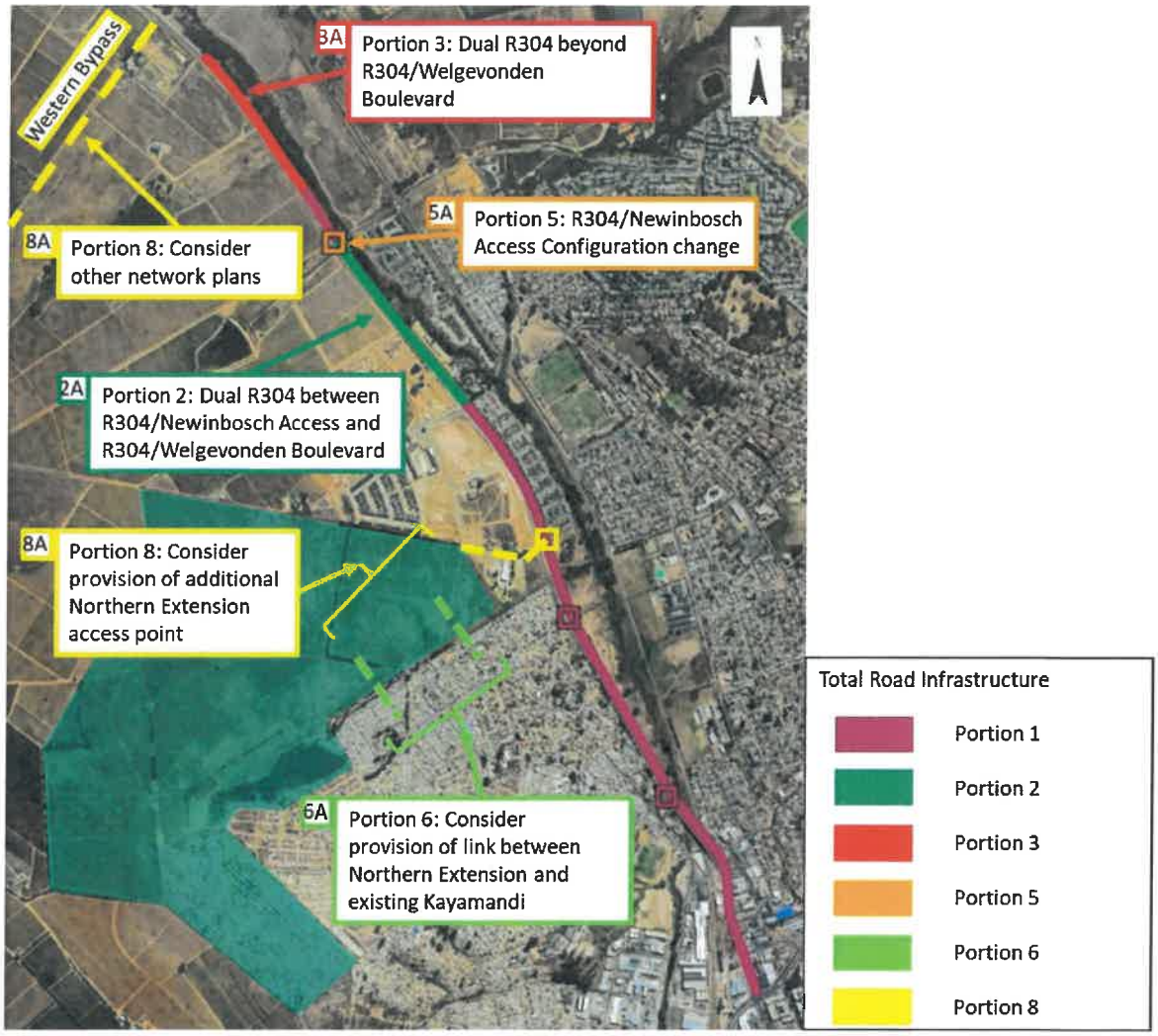


Figure 31: Total Required Road Infrastructure

17.1 Road Upgrades Cost per Portion

In this TIA costing will only be done for the upgrading of external road infrastructure. The costing for the internal road infrastructure was included in the costing of the Civil Services. The cost assumptions and costing for each portion of the development for external road infrastructure upgrades is depicted in Table 48. As stated previously, these costs are indicative costs and should only be used as a guide.

Table 48: Estimated Cost for Upgrading External Roads

Cost Assumptions	
Road Cost per Square Meter	R 2,000.00
Lighting Cost Meter	R 2,300
Upgrade Traffic Signal	R 500,000
Install New Traffic Signal	R 1,500,000
Bridge Cost per Square Meter	R 40,000
Sidewalk Cost per Square Meter	R 850
Median Cost per Square Meter	R 850

Sidewalks and Medians Cost Assumptions	
Rate/m²	Comments
R 300	60mm thick Concrete Block Pavers Type S-C with chamfers
	20mm bedding Sand
R 150	150mm G5 Subbase
R 400	Edging
R 850	

Road Including Stormwater Cost Assumptions	
Rate/m²	Comments
R 200	40mm Asphalt
R 300	150mm G2 Base
R 550	300mm Stabilised Subbase
R 950	Drainage / Stormwater Allowance
R 2,000	

NORTHEN EXTENTION BULK EXTERNAL ROAD UPGRADE COST ESTIMATES		Zutari - Rev2 Portion 1A		Zutari - Rev2 Portion 2		Zutari - Rev2 Portion 3		Zutari - Rev2 Portion 6		Zutari - Rev2 Portion 8* Kayamandi Link		Zutari - Rev2 Portion 8* R304 Link	
Item No.	Description	Units (m²)	Estimated Cost	Units (m²)	Estimated Cost	Units (m²)	Estimated Cost	Units (m²)	Estimated Cost	Units (m²)	Estimated Cost	Units (m²)	Estimated Cost
1.1	Roadways 3.7 m lanes. 2 m wide shoulders.	22278	R 44,556,000.00	2820	R 5,640,000.00	4700	R 9,400,000.00	648	R 1,296,000.00	648	R 1,296,000.00	2758	R 5,516,000.00
1.2	Sidewalks 2 m wide sidewalks.	8100	R 4,335,000.00	600	R 510,000.00	1000	R 850,000.00	200	R 170,000.00	200	R 170,000.00	1150	R 999,000.00
1.3	Medians 5 m wide median.	10750	R 9,137,500.00	1500	R 1,275,000.00	2500	R 2,125,000.00		R -		R -		R -
1.4	Bridge Widening 3.7 m lanes. 2 m wide shoulders. 2 m wide median.	2300	R 92,000,000.00		R -		R -	432	R 17,280,000.00	432	R 17,280,000.00		R -
1.5	Traffic Signals		R 1,500,000.00		R -		R -		R -				R 1,500,000.00
1.6	Road Lighting Lighting on both sides on the road.		R 9,200,000.00		R 1,380,000.00		R 2,300,000.00		R 460,000.00		R 460,000.00		R 667,900.00
	SUBTOTAL 1		R 160,728,500.00		R 8,805,000.00		R 14,675,000.00		R 19,206,000.00		R 19,206,000.00		R 8,689,000.00
	Contingencies (15%)		R 24,109,275.00		R 440,250.00		R 733,750.00		R 961,100.00		R 961,100.00		R 433,450.00
	SUBTOTAL 2		R 184,764,925.00		R 9,245,250.00		R 15,408,750.00		R 20,166,300.00		R 20,166,300.00		R 9,102,450.00
	Preliminaries and General (10%)		R 18,476,492.50		R 924,525.00		R 1,540,875.00		R 2,016,630.00		R 2,016,630.00		R 910,245.00
	Estimated cost for Bulk Civil Infrastructure (Excl. VAT)		R 189,016,716.00		R 10,354,680.00		R 17,267,800.00		R 22,586,256.00		R 22,586,256.00		R 10,194,744.00
	Professional Fees (According to ECSA Specifications)		R 6,196,494.43		R 474,828.00		R 742,615.00		R 821,159.00		R 821,159.00		R 337,789.76
	Estimated cost for Bulk Civil Infrastructure (Excl. VAT & Incl Prof Fees)		R 195,212,126.43		R 10,829,508.00		R 18,000,415.00		R 23,407,846.00		R 23,407,846.00		R 10,532,533.76

**Portion 8 costs do not include the Western Bypass cost and is split into 2 potential options, either a potential additional link to Kayamandi or a potential additional link to the R304.*

18 Conclusions

The primary purpose of this TIA was to examine the implications of trips generated by the proposed the Development and the impact this will have on the adjacent road network. This assessment identified any necessary road network improvements that may be needed to accommodate the additional traffic.

Conclusions made in this report are summarised in the table below.

Road Network	The road network in the immediate vicinity of the proposed development consists of the following roads: ► R304 (MR00174) (Class 2 Major Arterial) ► Welgevonden Boulevard (Class 3 Minor Arterial) ► Sokuqala Street (Class 4 Collector) ► Masitandane Road (Class 4 Collector) ► Newinbosch Access (Class 3 Minor Arterial)
Study Intersections	The critical intersections which will be impacted by the generated traffic are: ► R304 / Welgevonden Boulevard ► R304 / Sokuqala Street ► R304 / Masitandane Road ► R304 / Newinbosch Access These intersections were analysed in SIDRA Intersection 9.1 Plus.
Traffic Counts	Traffic counts were conducted at the study intersections during the following periods: ► AM Peak Period (06:00 - 09:00) ► PM Peak Period (15:00 - 18:00) The AM peak hour occurred from 06:45 to 07:45 and the PM peak hour from 16:00-17:00.
Growth Rate	To estimate the future background traffic, a growth rate of 1.7% was applied to the 2023 background traffic.
Proposed Development	Trip generation rates and trip reduction rates were obtained from the South African Committee of Transport Officials (COTO) Trip Data Manual, TMH 17, Volume 1 (2013). As well as using the EMME Stellenbosch Transport Model. In the morning (AM peak hour) the development will generate 944 trips (323 in and 621 out). In the afternoon (PM peak hour) the development will generate 754 trips (499 trips in and 255 trips out).
Site Access	Access to the Development will be mainly off the R304. Initially the Development will only gain access via the Newinbosch Access road. Later as the development progresses a connection will be created between the Northern Extension and the existing Kayamandi through Phase 1.
Analysis Scenarios and Results	In preparing this report the key intersections were analysed in Sidra, considering 8 Scenarios (each with and without the development traffic). The results indicated that a number of infrastructure upgrades are required to support the full development of the Kayamandi Northern Extension.
Intersection Analysis	**Scenario 0 (2023 Traffic conditions)** All intersection operate under acceptable LOS conditions. **Scenario 1a (2026 Background Traffic without development traffic)** Recommended improvements (as per the Stellenbosch Roads Masterplan and the previous TIA conducted for the Newinbosch development): • Dual the R304 between the R44 and the Newinbosch Access • Upgrade the R304/Welgevonden Boulevard intersection **Scenario 1b (2026 Total Traffic including Portion 1 development traffic)**

	All intersections operate at acceptable LOS. **Scenario 2a (2028 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 2b (2028 Total Traffic including Portion 2 development traffic)** Recommended improvements • Extend the dualing of the R304 to the R304/Welgevonden Boulevard. **Scenario 3a (2030 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 3b (2030 Total Traffic including Portion 3 development traffic)** Recommended improvements: • Dual R304 beyond the R304/Welgevonden Boulevard **Scenario 4a (2031 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 4b (2031 Total Traffic including Portion 4 development traffic)** All intersections operate at acceptable LOS. **Scenario 5a (2033 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 5b (2033 Total Traffic including Portion 5 development traffic)** Recommended improvements: • Upgrades to R304/Newinbosch Access intersection: additional left turn lane for western approach. **Scenario 6a (2034 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 6b (2034 Total Traffic including Portion 6 development traffic)** Recommended improvements: • Consider the provision of an additional access to the Northern Extension Development. **Scenario 7a (2035 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 7b (2035 Total Traffic including Portion 7 development traffic)** All intersections operate at acceptable LOS. **Scenario 8a (2036 Background Traffic without development traffic)** All intersections operate at acceptable LOS. **Scenario 8b (2036 Total Traffic including Portion 8 development traffic)** Recommended improvements: • Consider the provision of an additional access to the Northern Extension Development. • Consider other greater network solutions.
NMT and PT	NMT and PT are prominent modes of transport in the Kayamandi community. Although there are both PT and NMT facilities in the vicinity of the Development these are disconnected and somewhat isolated. Two taxi ranks will be built as part of the Development. In addition, the existing NMT facilities should be connected and integrated into the new Development.
Traffic Calming	Speeding of vehicles is a concern due to the topography of the Development. The development's road geometry was designed to slow vehicles down, effectively acting as a traffic calming measure. Other measures such as raised intersections and pedestrian crossings should be implemented.

19 Recommendations

This Traffic Impact Assessment supports the development of the Kayamandi Northern Extension. There are however limitations to the existing road network which need to be addressed in order to accommodate the full extent of the Development. Considering this, it is recommended that:

1) The R304 should be upgraded to a dual carriageway between R304 / Newinbosch Access intersection and the R304 / R44 (Adam Tas Road) intersection **before** Portion 1 of the Development is implemented. This infrastructure is necessary as a result of the existing background traffic and not due to the Development considered in this report.
2) When Portion 2 of the development is implemented, the dualling of the R304 should be extended from Newinbosch Access road to the Welgevonden Boulevard intersection.
3) The R304 be dualled beyond the Welgevonden Boulevard intersection when Portion 3 and 4 of the development is implemented. Potentially up to where the planned Western Bypass will intersect with the R304.
4) Linkages between the Northern Extension and the existing Kayamandi be provided as this will improve the accesses when Portion 6 of the development is introduces. The current layout plan makes provision for future additional accesses, see Appendix B.
5) Once fully developed, it is recommended that:
    a. An additional access to the Development be provided, this access could either be via another link between the Northern Extension and the existing Kayamandi or an additional potential access point off the R304. The provision of an access point off the R304 is included in the current development plan. However, its implementation will be guided by the phased roll out of the development, prevailing future traffic conditions and the configuration of the surrounding road network.
    b. A network wide intervention aimed at addressing the potential capacity constraints of the R304. Future plans like the Western Bypass need to be considered at this stage.
6) NMT facilities on the external road network should be extended along the Link Road to connect with the Northern Extension's internal NMT network.
7) Given that NMT and PT are prominent modes for commuters in this area, it is recommended that the two additional PT facilities (shown on the SDP attached to this report) be provided.
8) Given the topography of the site, it is recommended that suitable traffic calming measures be implemented where speeding may be problematic.
9) TIAs need to be conducted as the phases/portions of the development are implemented when detailed SPDs are available to evaluate the network performance as the development is implemented.

Appendix A

Traffic Count Data

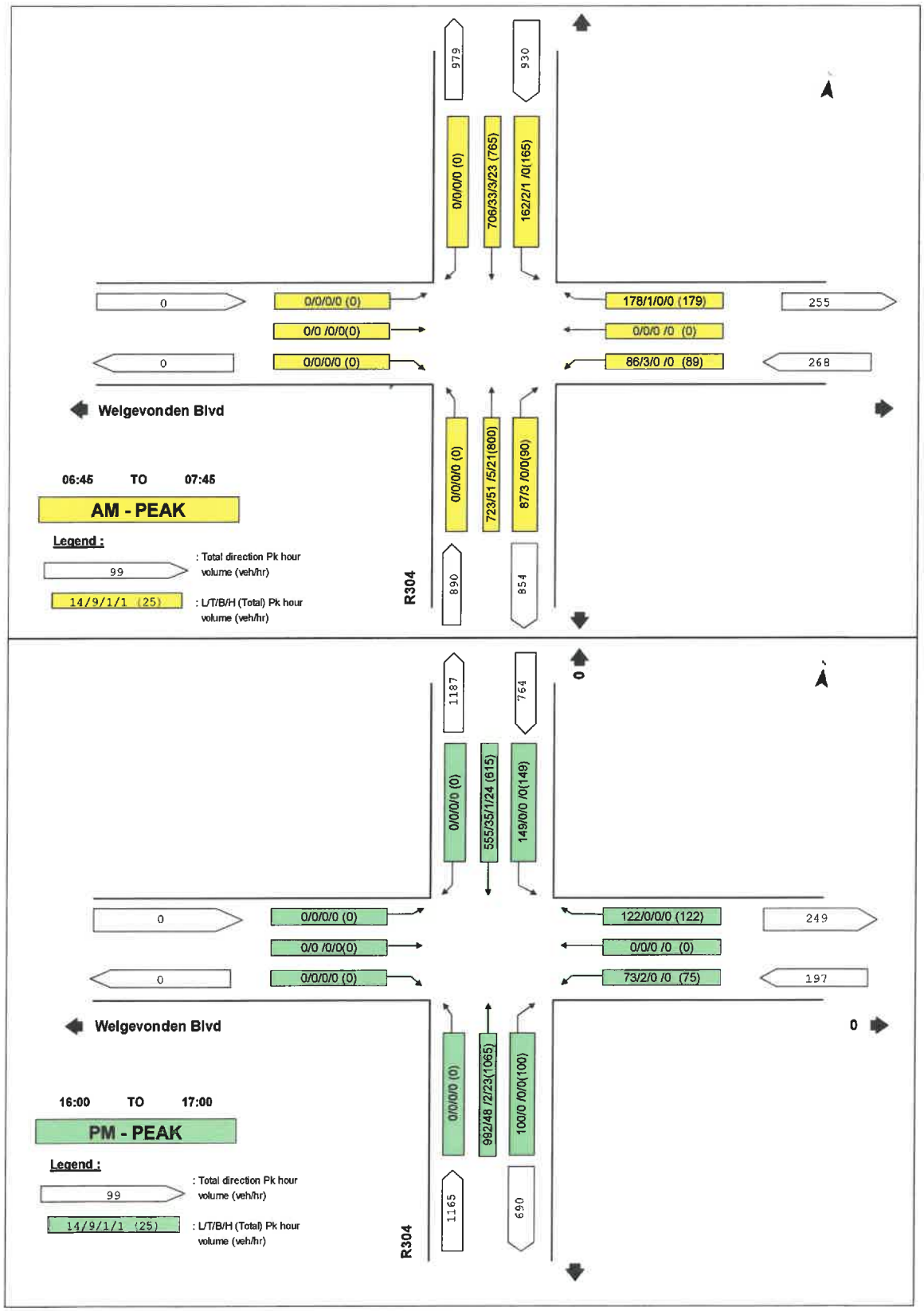


Figure 32: R304 & Welgevonden Boulevard Traffic Counts

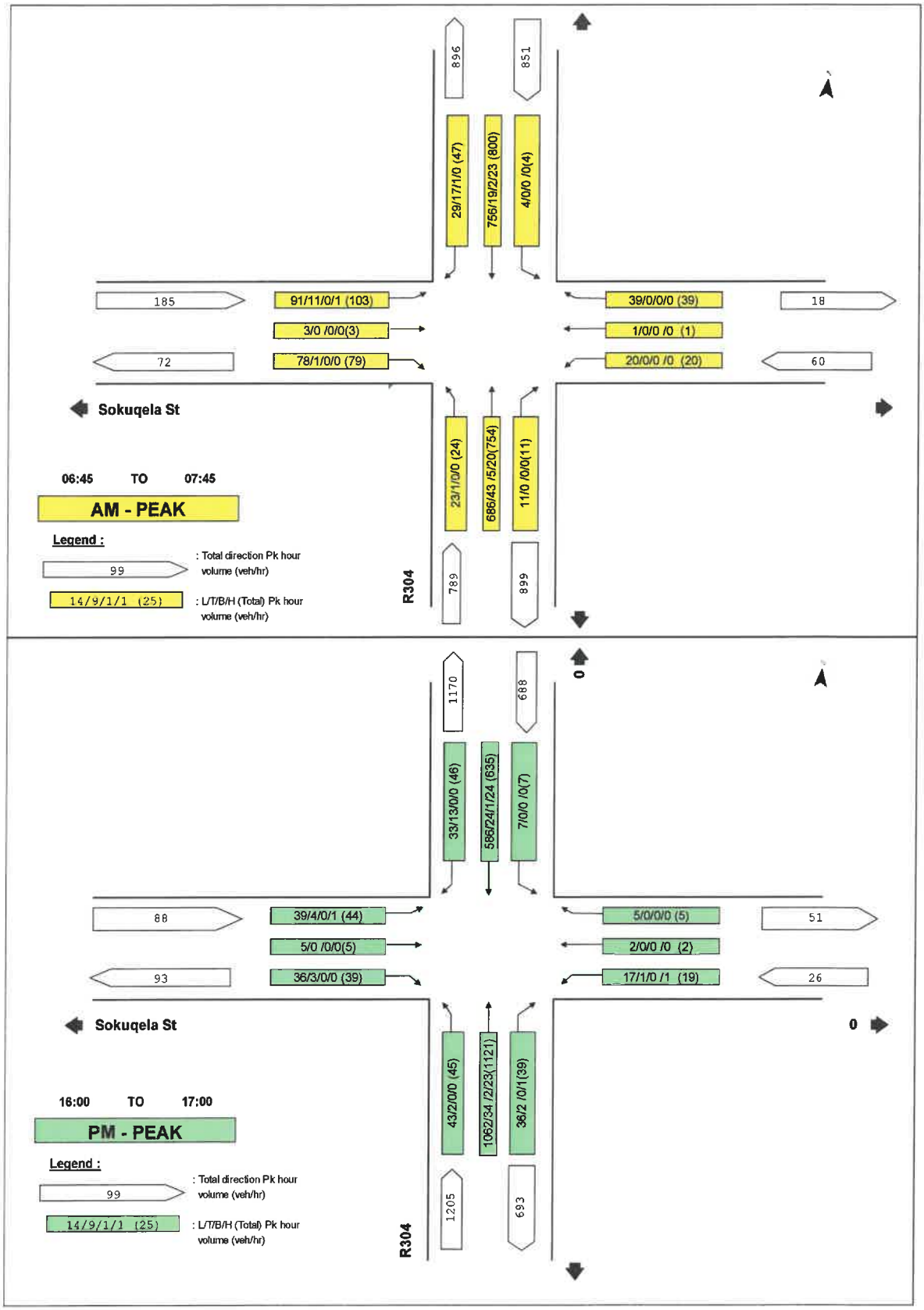


Figure 33: R304 & Sokuqala Street Traffic Counts

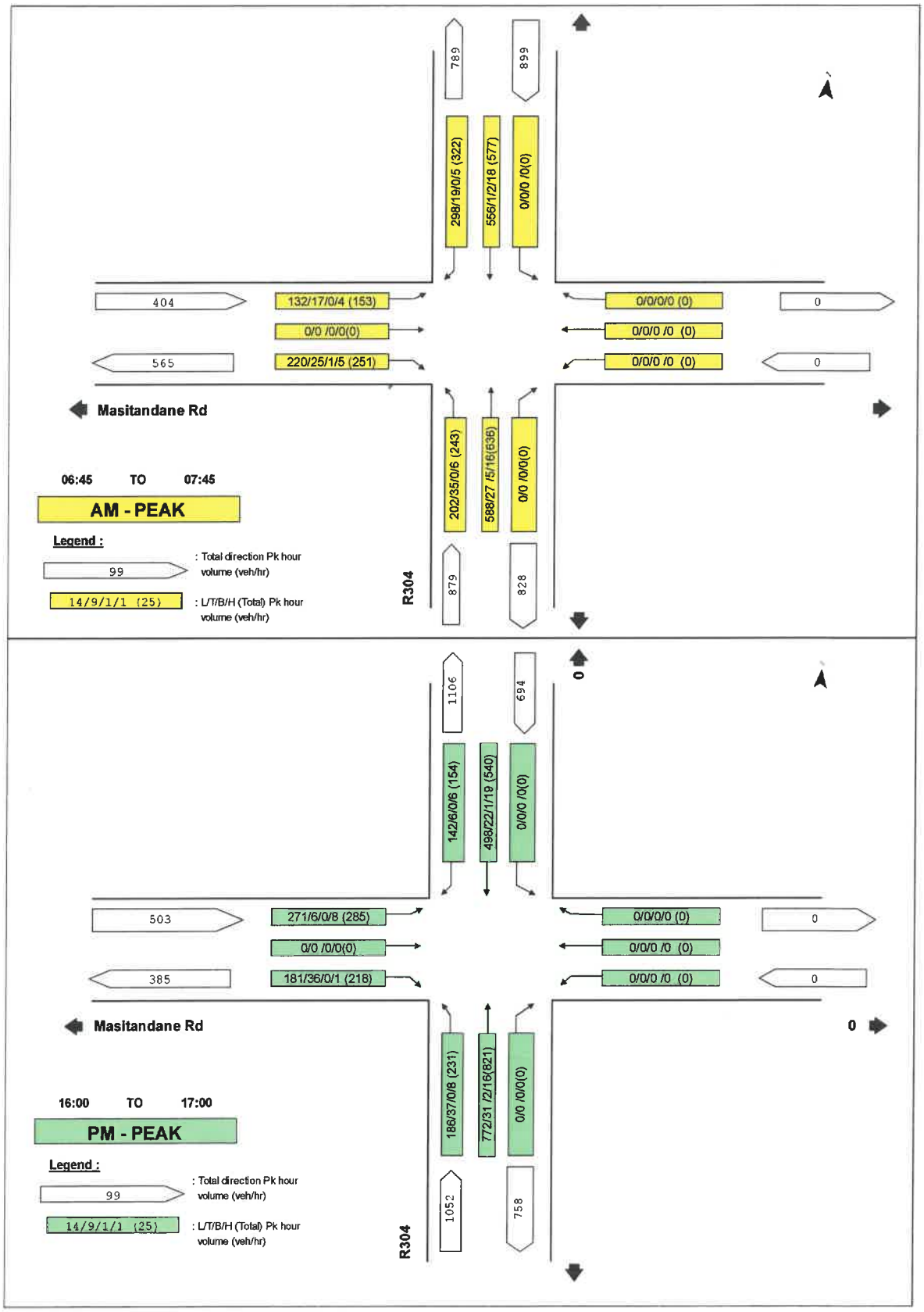


Figure 34: R304 & Masitandane Road Traffic Counts

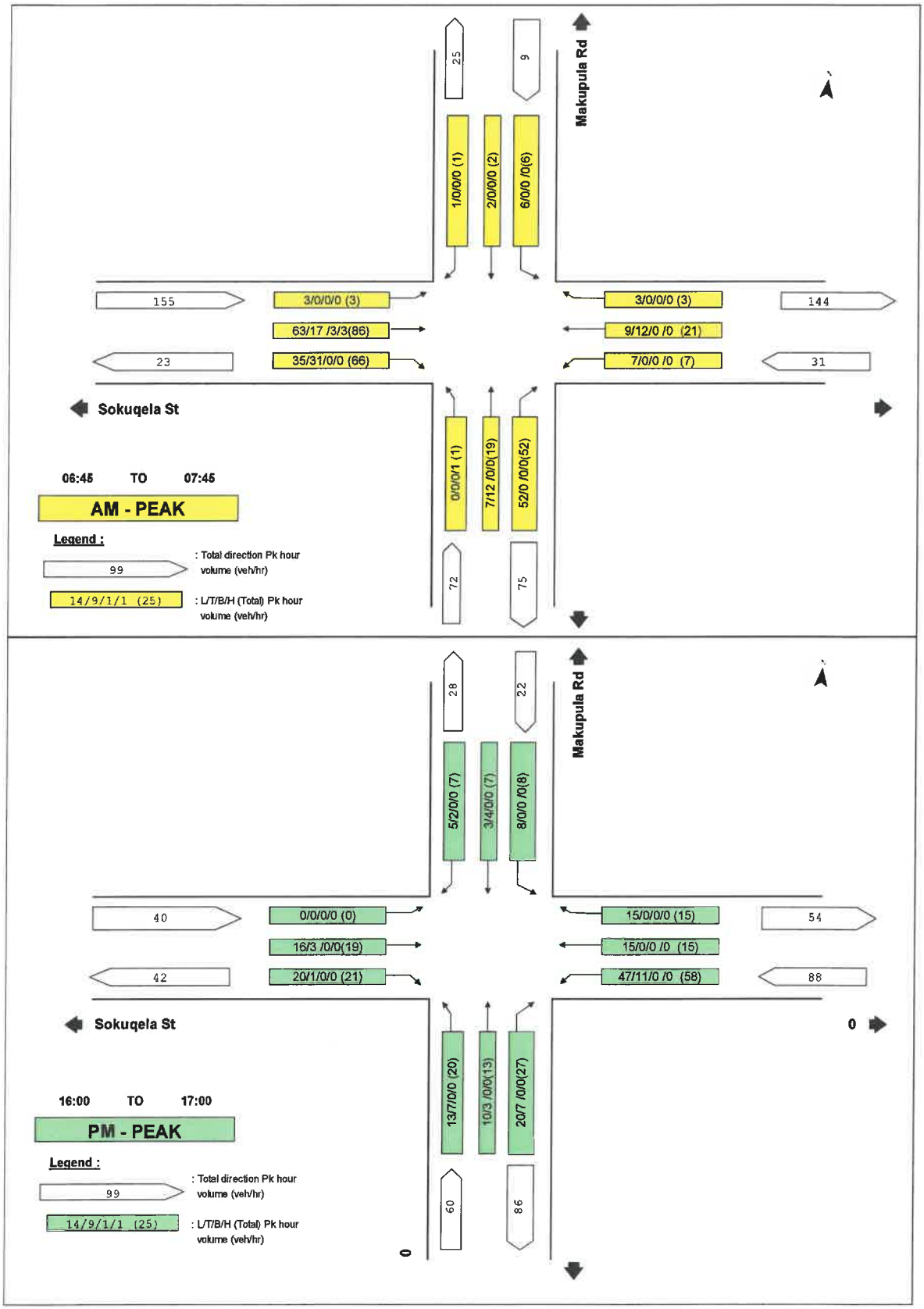
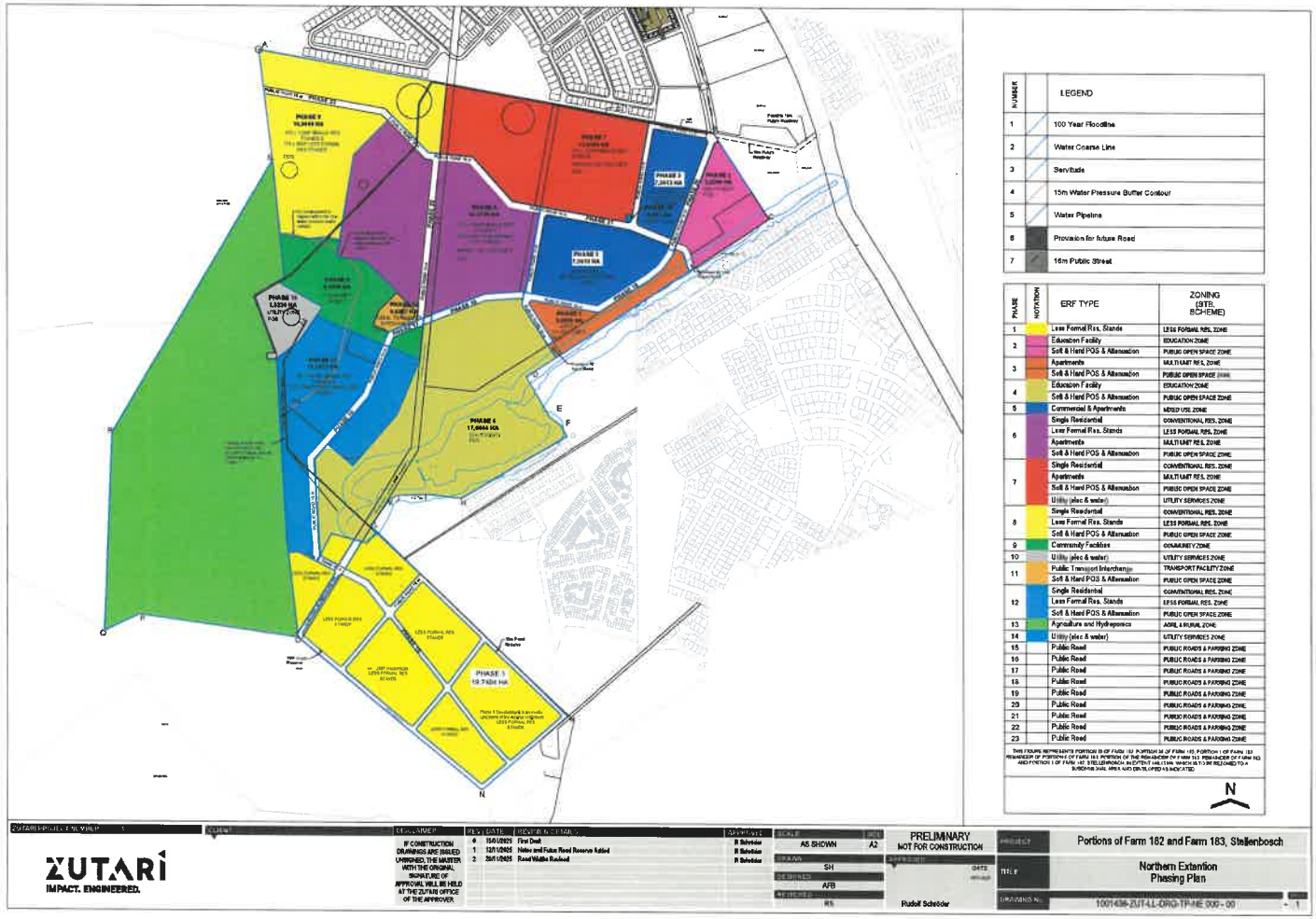


Figure 35: Sokuqala Street & Makupula Road Traffic Counts

Appendix B

Development Phasing



NUMBER		LEGEND
1		100 Year Floodline
2		Water Course Line
3		Servitude
4		15m Water Pressure Buffer Contour
5		Water Pipeline
6		Provision for future Road
7		16m Public Street

PHASE	NOTATION	ERF TYPE	ZONING (STE SCHEME)
1		Less Formal Res. Stands	LESS FORMAL RES. ZONE
2		Education Facility	EDUCATION ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
3		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
4		Education Facility	EDUCATION ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
5		Commercial & Apartments	MIXED USE ZONE
6		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
7		Single Residential	CONVENTIONAL RES. ZONE
		Apartments	MULTI UNIT RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
		Utility (elec & water)	UTILITY SERVICES ZONE
8		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
9		Community Facilities	COMMUNITY ZONE
10		Utility (elec & water)	UTILITY SERVICES ZONE
11		Public Transport Interchange	TRANSPORT FACILITY ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
12		Single Residential	CONVENTIONAL RES. ZONE
		Less Formal Res. Stands	LESS FORMAL RES. ZONE
		Soft & Hard POS & Attenuation	PUBLIC OPEN SPACE ZONE
13		Agriculture and Hydroponics	AGRI. & RURAL ZONE
14		Utility (elec & water)	UTILITY SERVICES ZONE
15		Public Road	PUBLIC ROADS & PARKING ZONE
16		Public Road	PUBLIC ROADS & PARKING ZONE
17		Public Road	PUBLIC ROADS & PARKING ZONE
18		Public Road	PUBLIC ROADS & PARKING ZONE
19		Public Road	PUBLIC ROADS & PARKING ZONE
20		Public Road	PUBLIC ROADS & PARKING ZONE
21		Public Road	PUBLIC ROADS & PARKING ZONE
22		Public Road	PUBLIC ROADS & PARKING ZONE
23		Public Road	PUBLIC ROADS & PARKING ZONE

THIS FIGURE REPRESENTS PORTION 19 OF FARM 182, PORTION M OF FARM 183, PORTION 1 OF FARM 183 REMAINDER OF PORTION 4 OF FARM 183, PORTION OF THE REMAINDER OF FARM 183, REMAINDER OF FARM 182 AND PORTION 1 OF FARM 182, STELLENBOSCH, IN EXTENT 146.1184 HA, WHICH IS TO BE REZONED TO A SUBDIVISIONAL AREA AND DEVELOPED AS INDICATED.

N

ZUTARI PROJECT NUMBER

ZUTARI
IMPACT. ENGINEERED.

CLIENT

DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER.

REV	DATE	REVISION DETAIL	APPROVED
0	15/01/2025	First Draft	R Schröder
1	12/11/2025	Water and Future Road Reserve Added	R Schröder
2	25/11/2025	Road Widths Revised	R Schröder

SCALE: AS SHOWN
SIZE: A2
DRAWN: SH
DESIGNED: AFB
RETRIEVED: RS

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED: Rudolf Schröder
DATE:

PROJECT: Portions of Farm 182 and Farm 183, Stellenbosch
TITLE: Northern Extention Phasing Plan
DRAWING No.: 1001436-ZUT-LL-DRG-TP-NE 000 - 00 - 1

Appendix C

Trip Distribution of Development Traffic

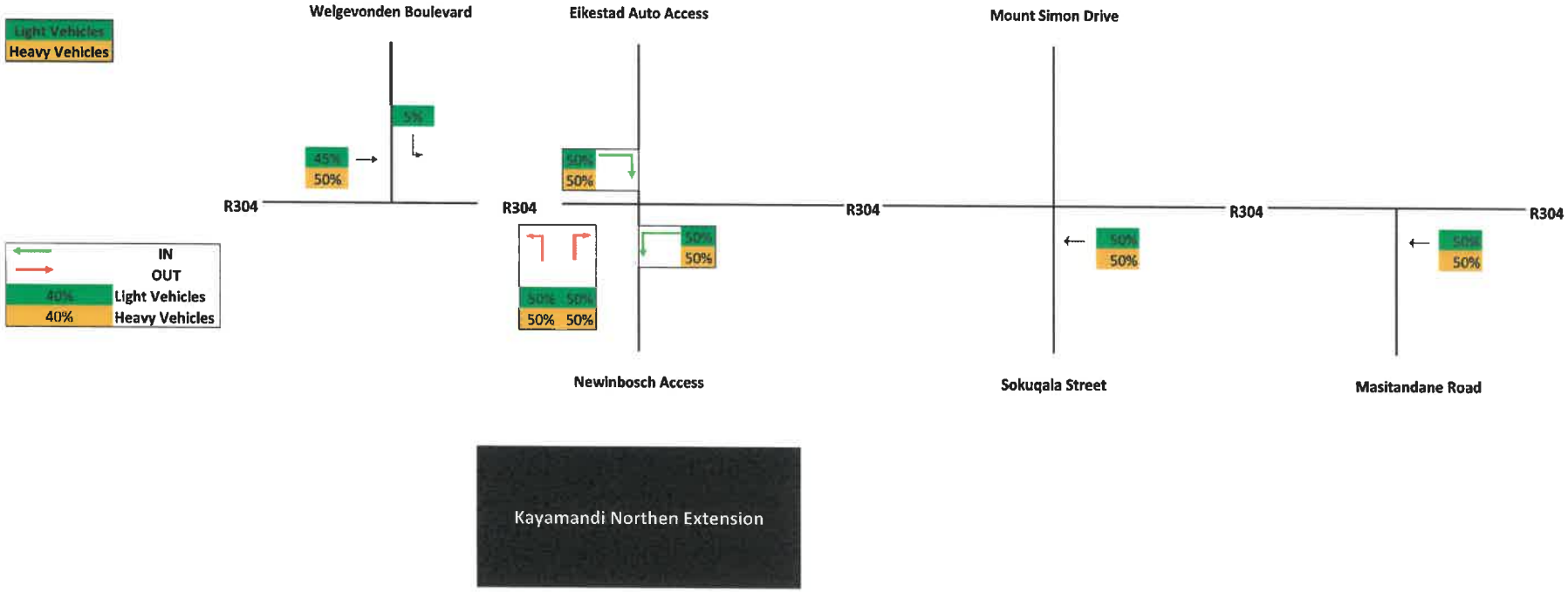


Figure 36: Trip Distribution Schematic

Appendix D

Phased Dualling of the R304

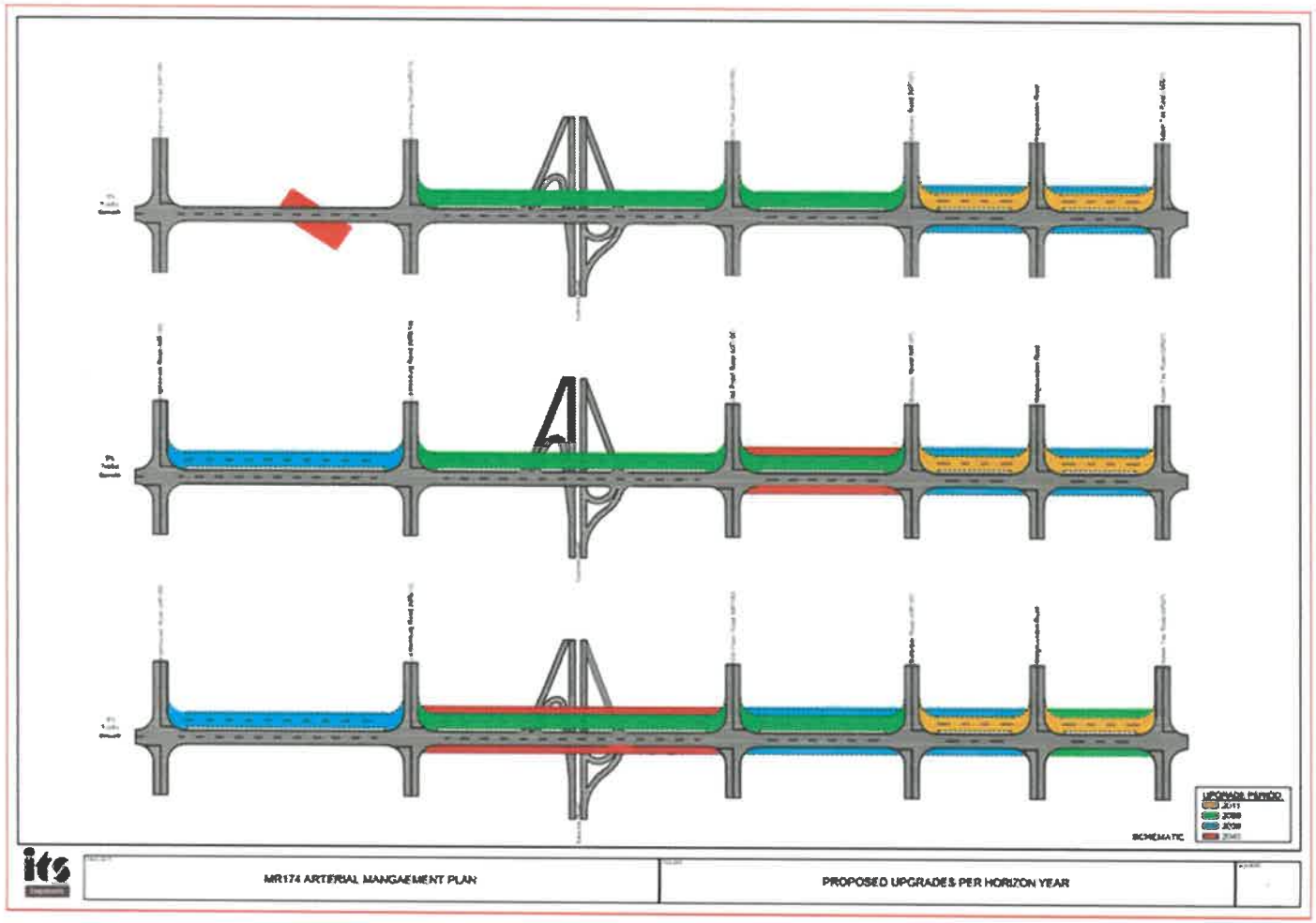
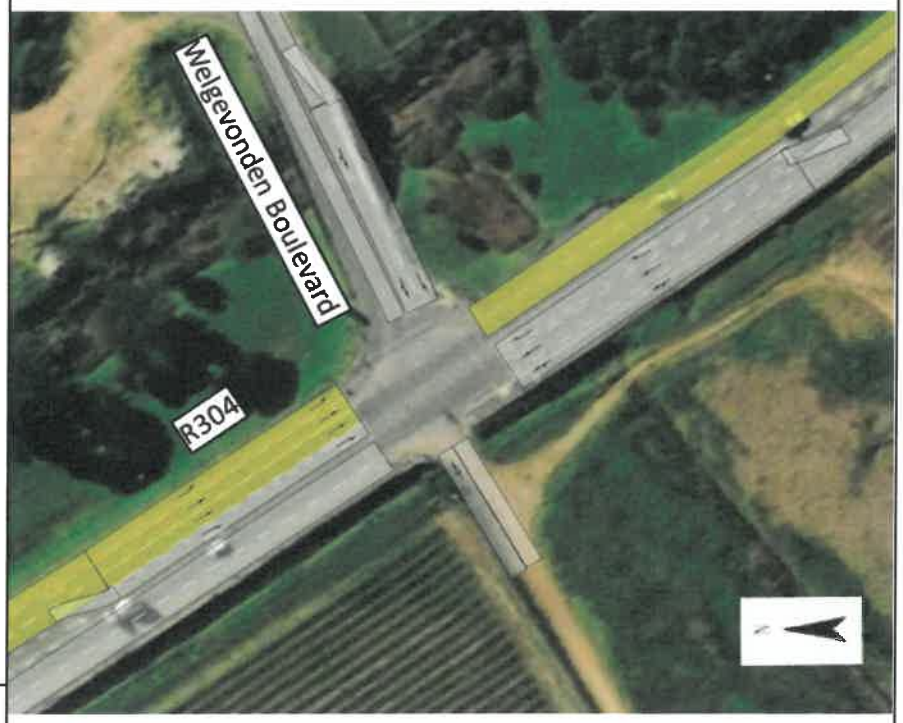


Figure 37: R304 Dualling Timeframe (Source: Stellenbosch Roads Masterplan)

Appendix E

Basic Road Infrastructure Concepts

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 1 Infrastructure Upgrades		
A1.1 - R304 / Welgevonden Boulevard Intersection Upgrade		
0 AM Peak Hour trips. **0 PM Peak Hour trips.**	It is proposed to upgrade the R304/Welgevonden Boulevard intersection. It is proposed to widen the intersection by providing additional through lanes for both directions of travel leading up to the intersection. After which the R304 will continue as a single lane per direction. Turning lanes will also be provided for both the right turn moves and a turning lane for the left turning movement for vehicles traveling into Stellenbosch.	 
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 16 990 595.00		

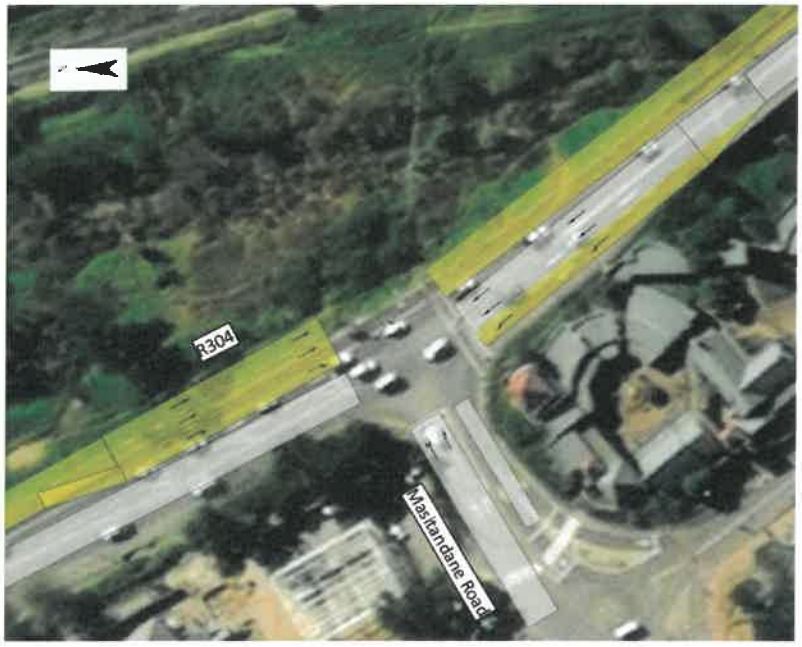
Upgrade Trigger (Development Trips)	Description	Basic Concepts
A1.2 - R304 Dualling between Newinbosch Access and R44		
0 AM Peak Hour trips. **0 PM Peak Hour trips**	It is proposed to dual the R304 between the existing R304/Newinbosch Access and R304 / R44 (Adam Tas Road) intersections to alleviate congestion on the R304 and to accommodate the growth in background traffic. This will provide 2 lanes per direction on the R304. This in turn will result in upgrades required for both the R304/Sokuqala Street and R304/Masitandane Road intersections, indicated as upgrade A1.2.1 and A1.2.2 respectively on Figure 30. Additionally, the bridge near the R304/Masitandane Road intersection must be widened.	A1.2.1 – Upgrade of R304 / Sokuqala Street  A1.2.2 – Upgrade of R304 / Masitandane Road 
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 178 221 530.00		



Figure 38:Typical Dualling Section 1 of R304

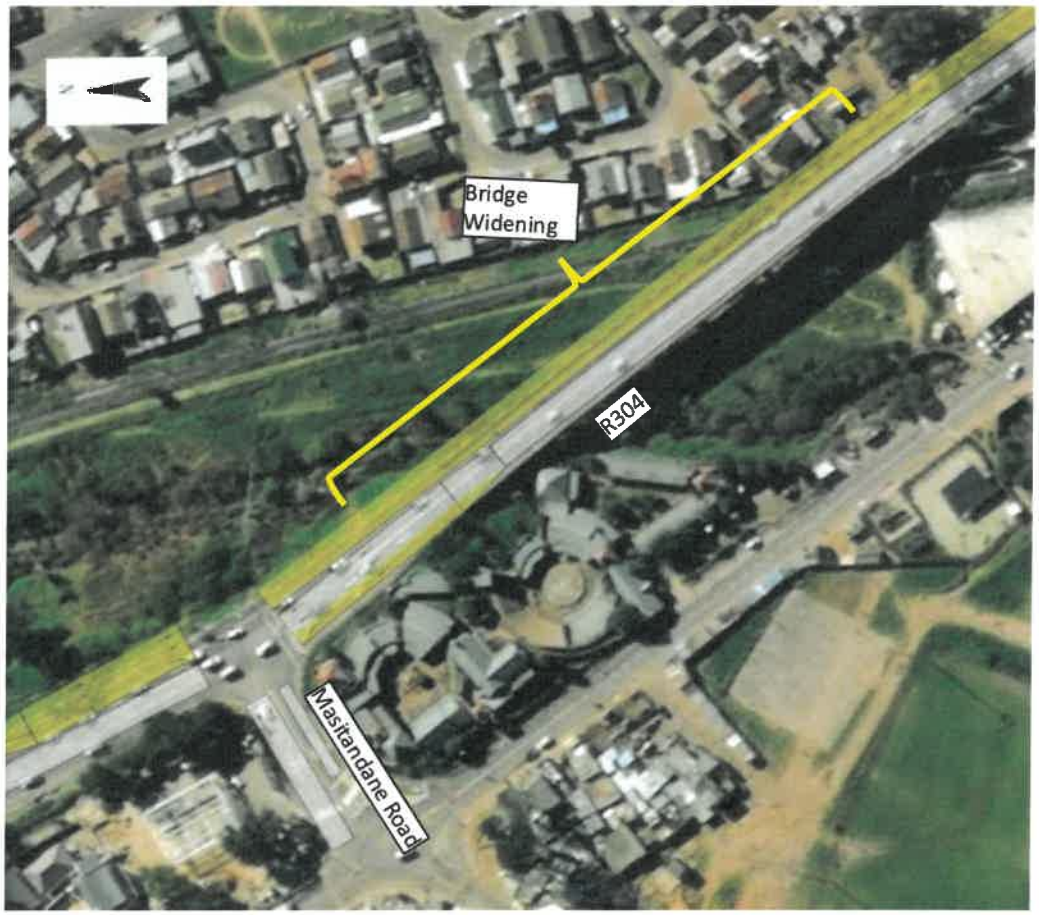
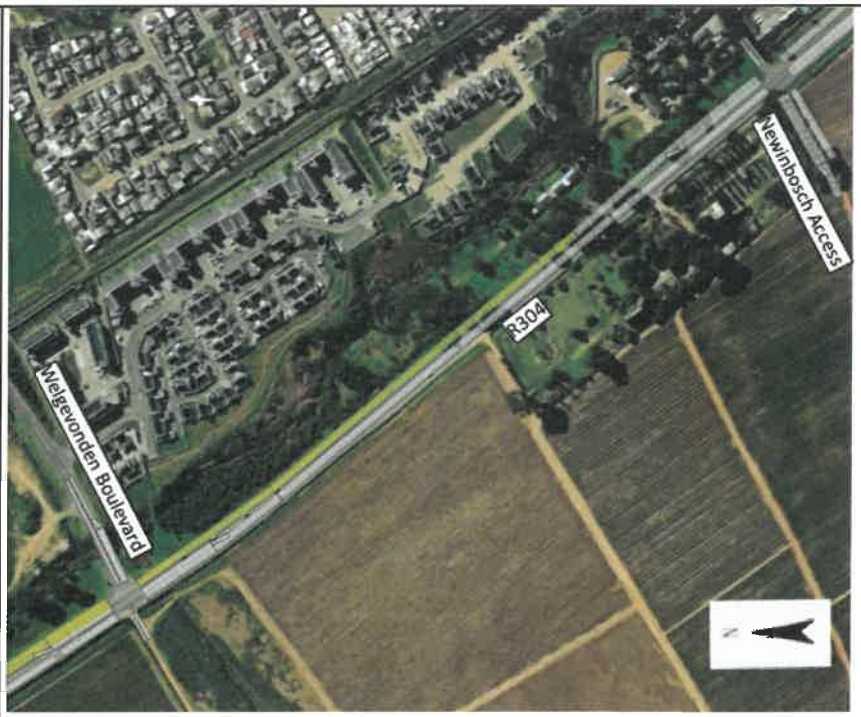
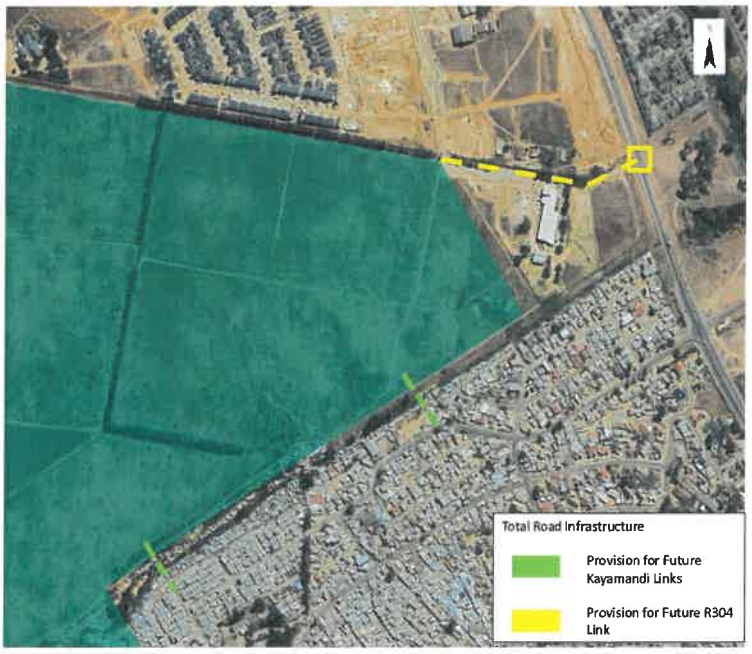


Figure 39: Bridge Dualling Section 2 of R304

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 2 Infrastructure Upgrades		
A2 - R304 Dualling between Welgevonden Boulevard and Newinbosch Access		
311 AM Peak Hour trips. **230 PM Peak Hour trips**	It is proposed to completely dual the R304 between the R304/Welgevonden Boulevard and R304/Newinbosch Access intersections.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 10 829 508.00		
Portion 3 Infrastructure Upgrades		
A3 - R304 Extended Dualling beyond Welgevonden Boulevard		
478 AM Peak Hour trips. **397 PM Peak Hour trips**	It is proposed to extend the dualling of the R304 beyond the Welgevonden Boulevard and R304 intersection for the traffic flowing out of Stellenbosch, however the length of the extension is uncertain. The extension of the dualling may have to be to the next intersection, which is the R304/Bottelary Road. Or with the link with potential Western Bypass, which may link up with the R304, approximately 800 m from R304/Welgevonden Boulevard intersection. The costing for this upgrade was based on the dualling extending to the planned link with the potential Western Bypass link.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 18 000 415.00*		

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 6 Infrastructure Upgrades		
A6 – Consideration of an Additional Access Point		
761 AM Peak Hour trips. **650 PM Peak Hour trips**	At this point of the development an additional access will be required to alleviate traffic on the existing R304/Newinbosch Access intersection. The layout of the development provides provisions for future links. Consideration should be given to utilising one of the links for providing an additional access point for the Northern Extension to the existing Kayamandi.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 23 407 846.00		
Portion 8 Infrastructure Upgrades		
A8 – Consideration of second Additional Access Point and Greater Network Plan		
942 AM Peak Hour trips. **754 PM Peak Hour trips**	At this point the greater network plan will be required to accommodate the bulk demand travelling along the R304. Future plans like the Western Bypass needs to be considered at this point in time. Furthermore, consideration can also be given in terms of providing another access point for the Northern Extension. The layout plan provides multiple provisions for future links that provide additional access.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 34 010 379.76		

In diversity there is beauty and there is strength.

MAYA ANGELOU

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ZUTARI
IMPACT. ENGINEERED.

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE I

Guillaume Nel
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18 November 2025

2nd Public Participation period: 18 November 2025 – 16 January 2026

GNEC Code: 20513

DEA&DP BAR Reference No: 16/3/3/6/7/1/B4/45/1205/22

Dear Interested and Affected Party,

NOTICE OF IN PROCESS COMMENTING PUBLIC PARTICIPATION PERIOD:

THE PROPOSED MIXED-USE DEVELOPMENT ON VARIOUS FARM PORTIONS IN STELLENBOSCH, KNOWN AS STELLENBOSCH NORTHERN EXTENSION.

INTRODUCTION & BACKGROUND

Guillaume Nel Environmental Consultants (GNEC) were appointed by Zutari (Pty) Ltd on behalf of the Stellenbosch Municipality, to facilitate the Basic Assessment Process in terms of the National Environmental Management Act, 1998 ("NEMA") for the proposed mixed-use development on various farm portions known as Stellenbosch Northern Extension. The *site* consists of the following portions of Farms 182 and 183, Stellenbosch:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

and also includes:

- Erf RE / 17939
- Erf 19 / 175
- Erf 18714
- Erf 16452
- Erf 235
- Erf RE / 6082

Guillaume Nel
environmental consultants

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LOCATION

The site is located to the west of the R304 and to the north of Kayamandi. A sewer line will also be upgraded along George Blake Street in Plankenbrug.

DEVELOPMENT PROPOSAL

The proposed development will consist of the following components: GAP/FLISP/Subsidised housing, serviced sites, apartments, public open spaces, public transport zones, education facilities, agriculture and hydroponics, an agricultural training facility and a community zone which includes places of worship, a post office, clinic, community hall, police station and a driving test center. The proposed development will consist of *approximately* 4 463 units.

CIVIL SERVICES

Potable Water

The general area of Kayamandi is currently supplied with water from the Kayamandi Reservoir through a rising main from the Kayamandi pump station and sump. Water can also be pumped from the Klienvlei reservoir to the existing Kayamandi reservoir. The existing system does not have sufficient capacity for the proposed development to proceed. According to the capacity analysis report by GLS Consulting, it is proposed that the Northern Extension development area is supplied with water from a new 10 ML higher lying reservoir (the so called Kayamandi Northern reservoir). New supply pipelines from the proposed Kayamandi Northern reservoir will be required to services the proposed development.

Sewer

Northern extension falls within the existing Adam Tas drainage system area, which gravitates directly towards the Stellenbosch Wastewater Treatment Plant (WWTP). The development area is situated within the sewer priority area. New collector sewers will be required to service the northern areas (areas S15.1 to S15.9 & S81). It is proposed that these areas connect to the existing 450 mm diameter bulk sewer adjacent to the R304 Main Road (Koelenhof Road). The southern areas of the site (S82 and S17) will be connected to the existing sewer system of Kayamandi.

The bulk sewer system downstream of Kayamandi has sufficient spare capacity to accommodate more than 50% of the total development area. Upgrading of the bulk system will however be required to accommodate the full development area. The following upgrades to the bulk sewer system downstream of Kayamandi is proposed in the sewer master plan to accommodate the full development area:

- 760 m x 600 mm Ø upgrade existing gravity
- Upgrade existing flow diversion
- 185 m x 600 mm Ø upgrade existing gravity

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- Upgrade existing flow diversion
- 450 m x 600 mm Ø upgrade existing gravity

The upgrade will take place along Geroge Blake Road, Plankenburg, Stellenbosch.

Electrical

Cables will be installed along the erf boundary to the south, which forms part of the planned bulk infrastructure upgrades by the municipality, which should be completed before the development is to start. The proposed underground cable will run the length of the southern boundary of the site.

The availability of the estimated 11.93MVA electrical supply to the development was discussed with the Stellenbosch Municipality. The municipality indicated that they are busy with infrastructure upgrades to the proposed development area, which will cater for the required load. The required capacity for the development will be made available as per the rolling out plan of the development.

The primary 11kV feed will be from Cloetesville 66kV/11kV substation. The development will require two switching substations and the secondary 11kV network supplying the development will feed from these two switching substations. Two 14m x 20m sites are required to allow for the switching substations. The positions of the substation sites are to be finalised during the detailed design stage of the project.

A 3m wide servitude is to be registered along the southern boundary of the development, to allow for the future upgrades and cable routes. Municipal streetlights will be installed along all municipal roads. Street-light cabling will be installed in the road reserve and in Public Open Spaces. The streetlights will be according to municipal standards.

Stormwater

The in-situ ground conditions are considered semipermeable open space with silty clay soils, grassland vegetation and light bush. Majority of the site slope towards the existing dam and river. The river flows from the Watergang dam along the south-east boundary in the direction of the regional road, R304 and crosses the road through a 2.46m x 2.5m concrete box culvert, creating a buffer between the proposed development and existing Kayamandi. The high point and watershed is essentially dividing the proposed development into two main catchment areas. The southern catchment will drain to the existing Watergang dam and river, and the Northern catchment will drain to proposed attenuation ponds.

Integrated stormwater systems in the open spaces, together with the natural features will be used to treat and accommodate stormwater flow. SuDS (Sustainable Design Systems) will be implemented within the street section and linear parks to reduce stormwater runoff. Three attenuation ponds are proposed along the north-western boundary of the site, which will ultimately discharge into the Plankenburg River.

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In line with the Red Book (CSIR, 2019) and Municipal Design Guidelines (Municipality, 2015), the proposed stormwater design will be based on restricting post-development peak flows to pre-development peak flows, for the same recurrence interval. The proposed stormwater design concept will comprise of smaller subdivided catchment areas conveying runoff generated from roads and parking areas to sustainable drainage systems such as grassblock areas, bio-retention gardens and dry swales incorporated in the road servitudes and open spaces. Attenuation of the difference between the pre- and post-development peak flows will be accommodated in the three attenuation ponds and in the existing dam.

Community facilities, commercial, and mixed-use sites within the development will be required to treat and attenuate the difference between their pre- and post-development peak run-off generated from the specific site on the site before discharging into the main stormwater system of the greater development.

Solid Waste Management

All waste generated will be temporarily stored in storage bins. The municipality will collect all bins from each site. All commercial, mixed use and community facilities should have refuse areas that is placed at a practical area with easy access for the Municipal Solid Waste Disposal Trucks of the Municipality. The waste collectors will transport the waste to a Waste Disposal Site as determined by the Municipality.



Figure 1 Locality Map.

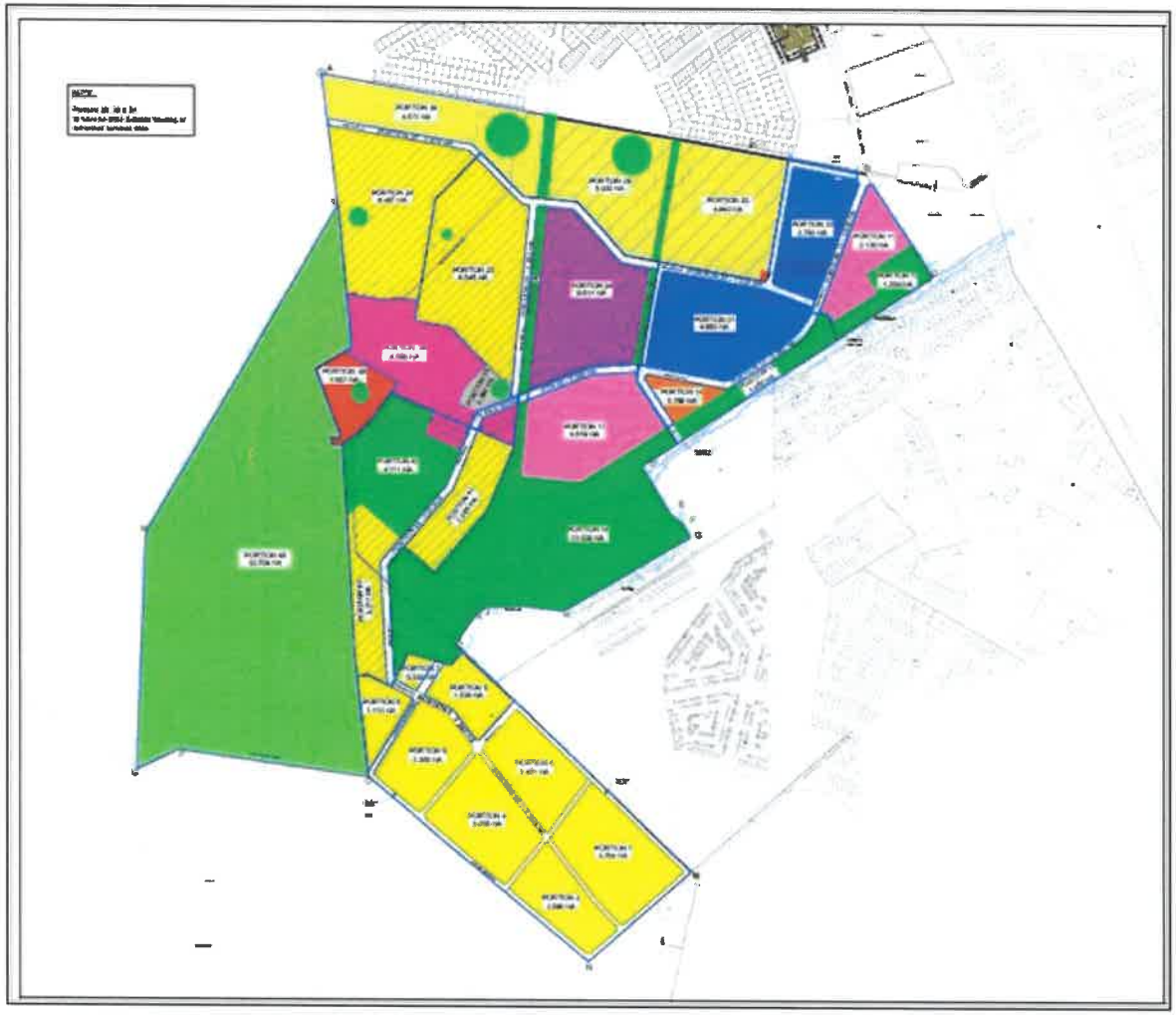


Figure 2: Preferred Site Layout

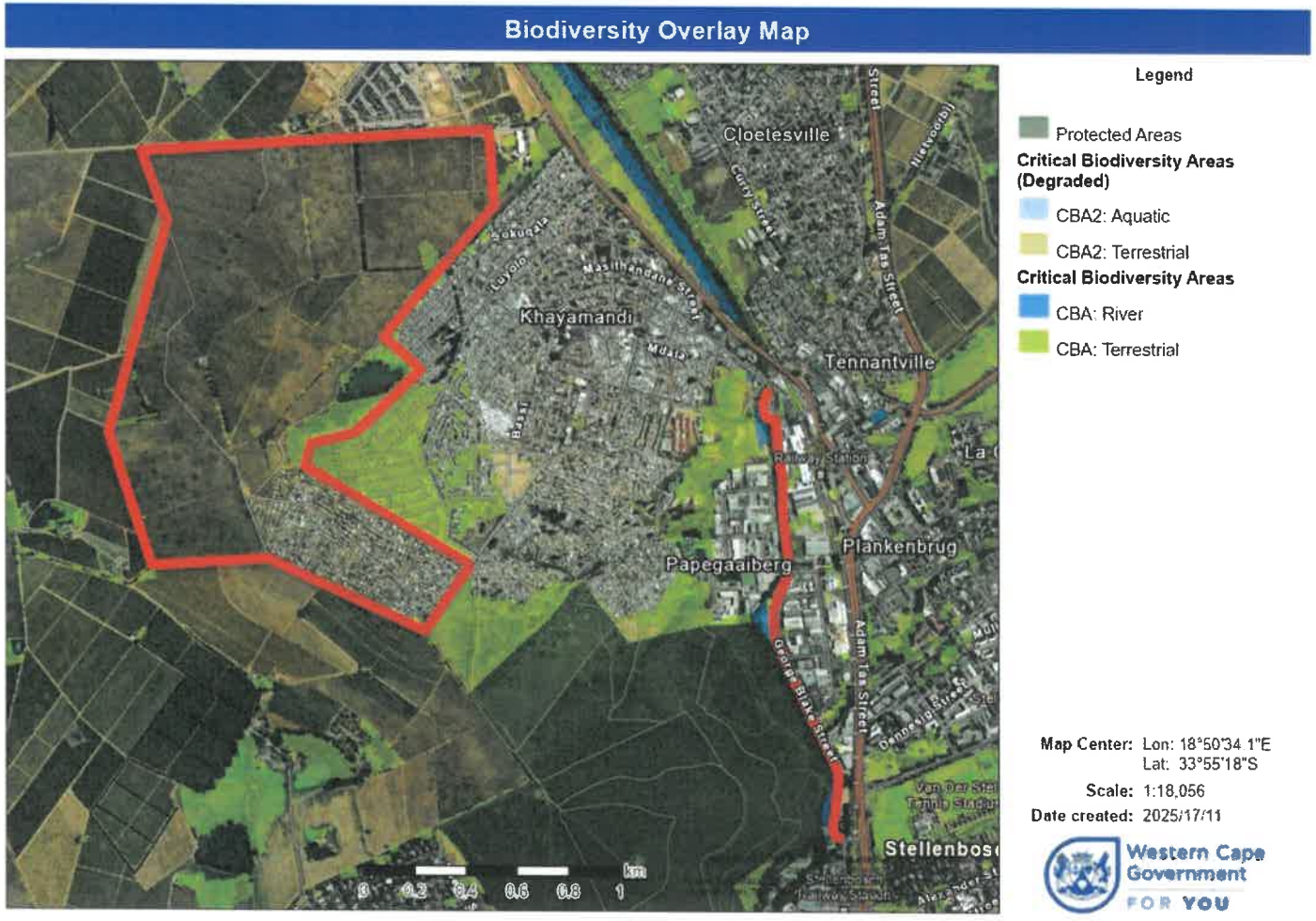


Figure 3: Biodiversity Overlay Map

VEGETATION

The Vegetation of South Africa, Lesotho and Swaziland (VEGMAP) (SANBI 2018) assigns a single vegetation type to the proposed site, namely Swartland Shale Renosterveld. Patches of indigenous remnant wild olive (Olea europaea subsp. africana) occur in the drainage line that leads into the dam. The area is degraded and infested with Port Jackson willow (Acacia saligna: NEMBA category 1b) and poplar. Wild olive (Olea europaea subsp. africana) was found beneath a row of stone pines (Pinus pinea). Rows of wild olive include mature, in some cases very old, trees are co-planted along with Cyperus (Cupressus sp.) in part of the proposed site.

The identification of potentially developable and No-Go areas is largely dependent on habitat sensitivity. However, if it is reasonable to either include or exclude certain areas based on an evaluation of the best interests of the affected environment versus the proposed development activity, then this should be motivated accordingly. The only area identified as a No-Go area is the remnant wild olive trees and associated habitat and watercourse. The Degraded area and watercourse are regarded as restorable and should be included as Public Open Space (POS) in the development plans. The wild olives that occur beneath the stone pines are secondary and are not regarded as having significant conservation importance. However, if these were kept within the proposed development, this would be supported from a botanical perspective. These trees extend to the north where open and mature stands of wild olive occur in the absence of pines.

FRESHWATER

Historic aerial photography dated 1938 revealed a formalised linear wet response feature which became impounded circa 1966, and the appearance of the Kayamandi Township circa 2006. The field visit identified this wet response feature as an unchanneled valley bottom (UCVB) wetland with the impoundment still present and formalised (constricted and channelised) flows downstream of the impoundment. The expansion of the Kayamandi Township continues along the southern border of this wetland, which in addition to historic agriculture in this area have impacted significantly on this wetland. Additionally, the Klippies River runs along the eastern boundary of the investigation area, east of the R304 main road and immediately west of the bulk sewer system, proposed to be upgraded, south of Kayamandi in order to service the development proposal.

Following the field visit, the ecological assessments modelled an overall Present Ecological State PES Class E (seriously modified), low Ecological Importance and Sensitivity and low ecoservices provision. Impounding of the wetland and channelisation and constriction of the downstream reach has severely altered hydrological and geomorphological processes which has led to a disturbed environmental response as seen in the wetland floral community that is dominated by alien and invasive vegetation. The Klippies River was assessed to be in a PES Class D (largely modified), displays a moderate EIS and low ecoservices provision. Channelisation, constriction and an upstream catchment dominated by residential and agricultural land use has largely altered hydrological and geomorphological processes of this system which have led to a disturbed environmental response as seen in the riparian floral community that is dominated by alien and invasive vegetation.

Following the ecological assessments of this wetland and the Klippies River, the Department of Water and Sanitation (DWS) Risk Assessment Matrix was applied to ascertain the significance of possible impacts which may occur as a

result of the proposed development. The result of this assessment is presented in Section 7 of the Freshwater Impact Assessment report and show that assuming mitigation measures are strictly enforced, a 'Low' risk is achievable for construction, and a "Moderate" risk is achievable during the operation of the proposed development. To ensure these low to moderate risks, the mitigation measures as set out by the freshwater specialist must be adhered to. Based on the findings of the watercourse assessments and the results of the risk assessment, it is the opinion of the freshwater specialist that the proposed activities pose a low risk to the integrity of the watercourse provided that adherence to cogent, well-conceived and ecologically sensitive construction plans are implemented and the mitigation measures provided as well as general good construction practice are adhered to. Therefore, the proposed activities may be considered for authorization.

HERITAGE IMPACTS

The HIA found that no heritage resources intrinsic to the site were identified by the heritage specialist and archaeologist. Nor were any heritage resources identified in the immediate vicinity of the site. The heritage resource associated with the site is its context, which forms part of the Cape Winelands cultural landscape. The site straddles two landscape units graded as IIIB in the Stellenbosch Heritage Inventory.

Both the Devon Valley to the west of the ridgeline and the western slopes of the Plankenbrug Valley (i.e., to the east of the ridgeline) are regarded as having aesthetic and economic significance. Given that a large development immediately to the north-east of the site has recently been approved, and the site will in future be surrounded by urban development to its north, east and south, the IIIB grading for the eastern portion of the site is regarded as inappropriate and is suggested to be IIIC. The Devon Valley, however, has retained its rural landscape of great scenic value and thus the IIIB grading is regarded as appropriate.

The HIA concluded that the site can potentially absorb a significant extent and intensity of development, without impacting negatively on heritage resources. These resources are restricted to the visual amenity of the cultural landscape, particularly that of the Devon Valley. Overall, the significance of the impact of the proposed development is regarded as **moderate** reducing to **medium to low** with mitigation.

Although the lack of more detailed information (and in particular 3D modelling), has made the assessment somewhat difficult, the authors are confident that although the concerns raised with respect to certain aspects of the development are valid, these can be addressed further down the line within the approval processes.

During a Heritage Impact Assessment, done by HWC (May, 2024), the following final comments were made:

1. Guidelines to be developed which enforce the height restrictions as per the indicators (to a maximum of 5 storeys on the lower eastern portion) and addressing the massing of buildings to avoid over-scaled monolithic structures and submitted to the Stellenbosch Municipality, Heritage Section for approval.
2. A landscape framework plan that addresses at least tree planting and fencing, particularly at the interface of the site with rural landscapes is prepared by a suitably qualified landscape architect and submitted to the Stellenbosch Municipality, Heritage Section for approval.

Development of any structures within the eastern portion of the site that may protrude above the ridgeline, and/or development of any structures on the western portion of the site (to the west of the ridgeline) must be subject to the submission of site development plans to the local authority for approval by the Stellenbosch Municipality, Heritage Section. These SPDs must indicate building placement, massing and landscaping and should include 3D modelling, where appropriate. The yellow-highlighted area in figure 58 on page 53 indicates the portions of the site where new structures will require submission of SDPs/sketch plans to the Stellenbosch Municipality, Heritage Section for approval. Proposals for new public/community facilities will require detailed SDPs to be submitted, and all new houses proposed within the yellow area will require the submission of sketch plans which must also indicate landscaping. The Stellenbosch Municipality, Heritage Section must restrict the height of structures to one storey; direct the placement of buildings on these sites; and prescribe landscaping requirements

TRAFFIC IMPACT ASSESSMENT

A Traffic Impact Assessment was compiled by Zutari (Pty) Ltd. The TIA examines the implication of the proposed development on the adjacent road network.

Access

The newly constructed Newinbosch Access, via Link Road, will be used as primary access route into the Development. A second access will be constructed in the future.

The TIA supports the development of the Kayamandi Northern Extension. There are however limitations to the existing road network which need to be addressed in order to accommodate the full extent of the Development. Considering this, it is recommended that:

- The R304 be upgraded to a dual carriageway between R304 / Welgevonden Boulevard intersection and the R304 / R44 (Adam Tas Road) intersection before additional development traffic can be added. This infrastructure is necessary as a result of the growth in background traffic and not due to the proposed development considered in this report.
- When Portion 2 of the development is implemented, the dualling of the R304 should be extended from Newinbosch Access road to the Welgevonden Boulevard intersection.
- The R304 be dualled beyond the Welgevonden Boulevard intersection when Portion 3 and 4 of the development is implemented. Potentially up to where the planned Western Bypass will intersect with the R304.
- Linkages between the Northern Extension and the existing Kayamandi be provided as this will improve the accesses when Portion 6 of the development is introduces.
- Once fully developed, it is recommended that:
    a.) An additional access to the Development be provided, this access could either be via another link between the Northern Extension and the existing Kayamandi or an additional access point off the R304.

    b.) A network wide intervention aimed at addressing the potential capacity constraints of the R304. Future plans like the Western Bypass need to be considered at this stage.

Guillaume Nel environmental consultants

- NMT facilities on the external road network should be extended along the Link Road to connect with the Northern Extension's internal NMT network.
- Given that NMT and PT are prominent modes for commuters in this area, it is recommended that the two additional PT facilities be provided.
- Given the topography of the site, it is recommended that suitable traffic calming measures be implemented where speeding may be problematic.

TIAs need to be conducted as the phases/portions of the development are implemented when detailed SPDs are available to evaluate the network performance as the development is implemented.

APPLICATION PROCESS

The Basic Assessment Report (BAR) will identify measures to reduce identified negative impacts and optimise positive impacts. As a result of the above-mentioned proposed development and associated possible environmental impacts, the following listed activity in terms of the National Environmental Management Act, Act 107 of 1998 and EIA Regulations (Regulations 983, 984 and 985 of 2014 as amended, are triggered:

Government Notice No. R.983 of 2014 (as amended): LN 1, Activity 9, 10, 12, 19, 24, and 28

The aim of this Basic Assessment Report (BAR) is to ensure that:

- The environmental impacts that may be associated with the proposed development are taken into consideration.
- Public participation is conducted, *i.e.*, to provide stakeholders and/or the community sufficient opportunity to comment on the proposed development; and
- Sufficient information is submitted to decision-makers to support an informed decision-making process.

A soft copy via *OneDrive* link or a hard copy of the document currently under review can be made available on request. The document and appendices will also be uploaded to our website www.gnec.co.za

Please send your written registration and comments to GNEC by no later than **Friday, 16 January 2026,** in order for us to include and address it in the Basic Assessment Report and Environmental Management Plan (EMPr) to be submitted.

Should you have any queries, please feel free to contact me, at:

Tel: (021) 870 1874, **Fax:** (021) 870 1873, **E-mail:** eg@gnec.co.za or

Visit our website www.gnec.co.za

We look forward to receiving your comments.

Yours sincerely



Guillaume Nel
environmental consultants

Mrs. Euonell Visagie

For GNEC

STELLENBOSCH MUNICIPALITY

STELLENBOSCH·PNIEL·FRANSCHHOEK

MEMORANDUM

DIREKTEUR: INFRASTRUKTUURDIENSTE
DIRECTORATE: INFRASTRUCTURE SERVICES

CIVIL ENGINEERING SERVICES

To ▫ Aan:	**Director: Planning + Economic Development**
Att Aandag	**Nicole Katts**
From ▫ Van:	**Director: Infrastructure Services**
Date ▫ Datum:	**20 January 2026**
Our Ref ▫ Ons Verw:	**Civil LU 2121**
Town Planning Ref:	**LU/11809**
Re ▫ Insake:	**Farms 182 and 183: Rezoning and Subdivision for the Northern Extension Integrated Mixed-Income Development**

This Memo replaces our Memo dated 25 April 2025. This revised Memo was required due to changes made to the subdivision layout as well as changes to the bulk services upgrade requirements, specifically roads.

The following engineering documents were evaluated as part of this application:

- Town Planning Motivation Report by Zutari dated 2024/01/25, Revision 3;
- Northern Extension Zoning Plan and Subdivision Plan Drawing No 1001438-ZUT-LL-DRG-TP-NE 000-00 Rev 2 by Zutari, dated20/11/2025 (as per revision details);
- Civil Services report by Zutari, dated 2025/10/07;
- Report on bulk water and sewer upgrades: drawings and costing, by Zutari, e-mail dated 19 June 2024 and meeting minutes summarizing the bulk upgrade requirements, by Zutari, e-mail dated Tue 2025/11/11 07:35. The Zutari report incorporates the information as per:
  - GLS report on water and sewer capacity dated 28 Nov 2023 (Revision 1);
- Traffic Impact Assessment by Zutari, dated 2025/09/30;

Civil LU 2645: Farm 182 &183 Stellenbosch (LU-16553 TP592-2023)

Development Parameters (As per the Civil Services Report)

Item no	Land use description	Amount of Units		Unit	Water demand rate per day		TOTAL DEMAND AADD (kl/d)
					Rate per unit:	*Rate by Area:*	
		Qty	Unit-type		kl per ha	kl per 100 sqm.	
1	Less Formal Residential Stands						-
1.1	Insitu upgrade - toilet (5 households per toilet)	500	Capita	5	0.025		62.50
1.2	Insitu upgrade - tap (20 households per tap)	125	Capita	5	0.060		37.50
2	Serviced Site						
2.1	Standpipe	581	Unit	5	0.025		72.63
2.2	Prefabricated toilet	581	Unit	5	0.09		261.45
3	Single Residential	1321	Erf	100	0.45		594.45
4	Apartments	1195	Unit		0.30		358.50
5	Mixed Use Residential	664	Unit		0.30		199.20
6	Mixed Use Commercial	9,456.58	m²	GLA		0.65	61.48
7	Educational Facility						
7.1	Building only	5,830.38	m²	GLA		0.60	34.98
7.2	Grounds	5.83	ha		12.00	-	69.96
8	Community Facility	6,624.90	m²	GLA		0.40	26.50
9	Public Transport facilities	5,423.00	m²	GLA		0.30	16.27
						Subtotal 1	**1,795**
						Plus 15% losses	269
						Subtotal 2	**2,065**

Engineering background and context:

Due to the services capacity required by this development, various infrastructure upgrades are triggered.

The approval conditions listed herewith identifies the external upgrades triggered by the entire Northern Extension development and identifies at which development thresholds these upgrades must be completed. Some of these upgrades are triggered upfront (i.e. before any of the phases can be implemented), and it is therefore important that the required budget approvals are secured to fund these items.

It is further understood that this development will be rolled out in a phased approach. For each of the phases, a Subdivision and/or Site Development Plan - "SDP" application must be submitted, to identify which link and internal services are triggered by each such phase. Such an application should therefore also include an Engineering Services Report and Traffic Impact Study.

3rd Access point and private property affected.

There are currently 2 existing access points that will serve the Northern Extension. One is via the Newinbosch access road, and the second is via Masitandane Road (the main access road to Kayamandi). To ensure adequate access road capacity for the ultimate development scenario, a third access point from the R304 will have to be constructed once

the Northern Extension reaches a certain trip generation threshold. On the proposed subdivision plan, this proposed future access road is indicated across Farm 183/37 (Apex School) and Farm 81/8 (directly east of Apex School). Amongst the various alternatives investigated, the municipality regards this as the most preferred access road route. It does however cross private property, and at the time of writing, agreement had already been reached with Apex School for the creation of a 10m municipal road reserve across their property. An agreement is yet to be reached with the owner of Farm 81/8. If an adequate 3rd access point is not provided, the Northern Extension will not be able to develop to its full potential, and a cap will have to be placed on development once a certain trip generation has been reached – more details under "Roads" below.

Azania informal settlement (Portions 1-8 on subdivision plan).

The bulk upgrades identified below will not be applicable for the in-situ formalization of the informal settlement. The impact of this settlement on the engineering services has already been absorbed in the infrastructure networks, and it is not foreseen that the formalization thereof will have a significant additional impact on the bulk services. When a development application or an engineering services approval application is received for this area, the minimum requirements in terms of bulk service upgrades (if any), link and internal services, will be identified and will have to be implemented as part of the project.

Cost Estimates

The cost estimates below include construction costs and professional fees and exclude VAT. It must be noted that these are high-level cost estimates based on conceptual infrastructure layouts. These estimates must be refined as the project progresses through the various design stages.

In consideration of provisions related to Civil Engineering Services, the application is supported, subject to the following conditions:

Specific Conditions: These conditions must be complied with prior to transfer of the first property or approval of any building plans, whichever occurs first – unless otherwise stated below.

1. Water

1.1 The following external, bulk upgrades must be installed to accommodate any development. See **Annexure: Water**.

	Item	Estimate
1.1.1	Augmentation of bulk supply from Skilpadvlei reservoir (Under Construction)	
1.1.2	10 Mega-litre Kayamandi Upper Reservoir (SSW.B31)	R35m
1.1.3	3145m x 450mmØ pipe (SSW.B30)	R25m
1.1.4	150 l/s Pumpstation (SSW.B23)	R12m
	Total (ex VAT)	***R72m***

1.2 For each of the individual development phases, the link pipelines and any associated infrastructure will have to be identified at SDP stage and constructed in order to connect such phase to the reservoir and external water network.

2. Sewer

2.1 The following external, bulk upgrades must be installed to accommodate any development. See **Annexure: Sewer**.

	Item	Estimate
2.1.1	760 m x 600 mm Ø upgrade existing gravity (SSS 1.2)	R8m
2.1.2	Upgrade existing flow diversion (SSS 1.4)	R0.5m
2.1.3	185 m x 600 mm Ø upgrade existing gravity (SSS 1.5)	R2.5m
2.1.4	Upgrade existing flow diversion (SSS 1.6)	R0.5m
2.1.5	450 m x 600 mm Ø upgrade existing gravity (SSS 1.7)	R5m
	Total (ex VAT)	***R16.5m***

2.2 For each of the individual development phases, the link pipelines and any associated infrastructure will have to be identified at SDP stage and constructed in order to connect such phase to the external sewer network.

3. Roads

3.1 The following external, bulk upgrades must be installed prior to, or in parallel with the first phase of the development. See **Annexure: Roads**:

	Item + (Reference number on Annexure: Roads)	Estimate
3.1.1	R304 / Welgevonden Boulevard intersection upgrade (1A.1)	R17m
3.1.2	R304 Dualling between Newinbosch Access and R44 (1A.2) and including: R304 / Sokuqala Street intersection upgrade (1A.2.1) R304 / Masitandane Road intersection upgrade (1A.2.2) Bridge widening	R180m
	Total (ex VAT)	***R197m***

The reason why these upgrades are regarded as critical in terms of the responsible development of the Northern Extension, is because it will alleviate existing congestion on the R304 and it is required to accommodate the existing background traffic as well as the additional traffic from the new- and ongoing developments in the area. In other words, without these upgrades, the congestion on the R304 will worsen when the development traffic is added to the network.

3.2 The following upgrades must be installed when triggered. Whether a certain phase triggers an upgrade, it will be identified when the SDPs for such phases are submitted for approval:

Costs include professional fees and excludes VAT.

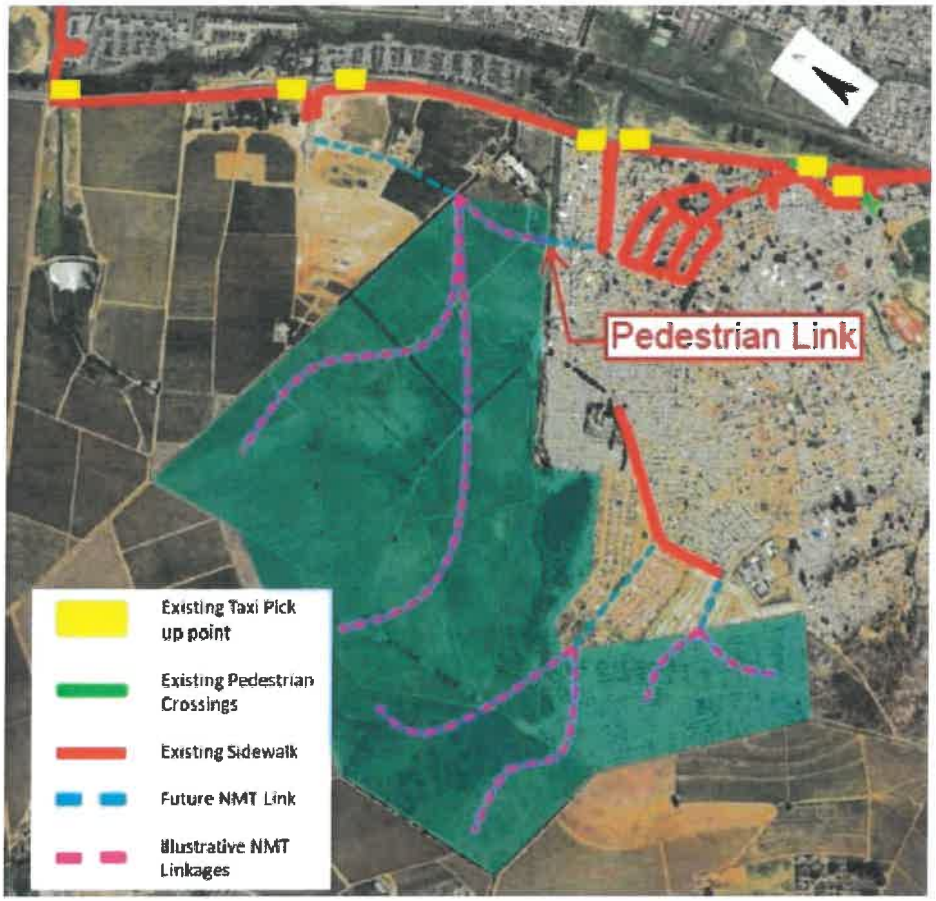
	ROADS	TRIGGER	ESTIMATED COST (ex VAT)
3.2.1	R304 dualling between the Welgevonden Boulevard and Newinbosch intersection (2A)	311 AM Peak Hour Trips or 230 PM Peak Hour Trips	R 11 m
3.2.2	Extend R304 dualling beyond Welgevonden Boulevard northwards (3A) The cost estimate is based on extending the dualling up until the planned Western Bypass.	478 AM Peak Hour Trips or 397 PM Peak Hour Trips	R 18 m
3.2.3	Construct a new road link between the Northern Extension development and Kayamandi (6A)	761 AM Peak Hour Trips or	R24 m

	This entails a stream crossing and will require a bridge.	650 PM Peak Hour Trips	
3.2.4	An additional access must be created – the preferred route is along Remainder Farm 81/8 and Remainder Farm 183/37 (Apex school) (8A) Also at this point, the implementation of the greater road network plan, in particular the Western Bypass Road, will be required to accommodate the bulk demand travelling along the R304 (8A)	942 AM Peak Hour Trips or 754 PM Peak Hour Trips	R 20 m

4. Non-motorized Transport (NMT)

4.1 Each SDP for the individual phases must include a detailed NMT plan that will ensure that the NMT infrastructure adequately addresses the needs of the residents, is compliant with the norms and standards applicable to such infrastructure and is aligned with the Municipality's proposed NMT network for the area as outlined in the NMT Masterplan. Any NMT items identified for implementation during the SDP approval phase, must then be completed prior to clearance of that phase.

One item that is of high importance is the construction of a **pedestrian link between Kayamandi and the Northern Extension,** across the Watergang Stream. This link is important especially for safe pedestrian movement to the schools and other public amenities planned in the Northern Extension. The construction of this bridge must form part of the implementation of the first phase of the Northern Extension. More details must be provided with the SDP application for the first phase.



5. Parking departure for row housing

5.1 The parking departure of 1 bay per dwelling in lieu of 2 bays is linked to row housing units. Row housing is not supported because it tends to create areas from which stormwater cannot freely drain. Semi-detached dwellings should rather be considered.

6. Stormwater

6.1 The difference between the pre- and post-development run-off must be detained on site. A Stormwater Management Plan (SWMP) and stormwater design drawings must be submitted for approval for each phase of the development. All detention ponds, inlet and outlet structures, erosion protection, the connections to the existing systems, and safety guardrails (if required), identified for each phase, must then be

completed prior to transfer of the first property, or where only a building plan is submitted, prior to the occupation certificate of such building.

6.2 The 1:50 and 1:100 floodlines must be clearly indicated on all future development applications and/or building plans. No development will be allowed below the 1:100-year floodline.

7. Installation of Engineering Services

7.1 Over and above the bulk and external upgrades identified above, each newly created erf (or each building where subdivision is not applicable) must also be fully serviced ito water- and sewer connections, stormwater drainage and roads/access points and all internal and link engineering services for the development must be installed by the developer and at his cost.

7.2 Detail engineering drawings must be submitted for approval prior to the commencement of construction. The approved drawings and municipal approval letter issued by the Municipality will constitute the "engineering services agreement" for the provision and installation of services between the municipality and the landowner / developer.

8. As – Builts

8.1 Upon completion, a complete set of as-built drawings, as well as the asset verification information (in the case of municipal services) be submitted in a format acceptable to the Municipality. These drawings must be signed by a professionally registered engineer.

General Conditions

9. The provision and installation of the services for the development must comply with the Design Guidelines and Minimum Standards for Civil Engineering Services as published on the municipality's website and as amended from time-to-time.

10. According to the information available at this stage, the internal services are **public**. Therefore, all internal services will be maintained by the **Municipality**. However, the ownership status will be confirmed with each SDP approval – any private developments will be responsible for the maintenance of their own services.

11. The applicability of Development Charges will be evaluated when the applications for the individual phases are received.

Tyrone King Pr Tech Eng
MANAGER: DEVELOPMENT (INFRASTRUCTURE SERVICES)

Myra Francis
SENIOR MANAGER: DEVELOPMENT SERVICES, ASSET MANAGEMENT AND SYSTEMS & PROJECT MANAGEMENT UNIT (PMU)

Shane Chandaka 21/01/2026
DIRECTOR: INFRASTRUCTURE SERVICES

W:\2.0 DEVELOPMENT\01 Land Use applications\2645 (TK) Farm 182 &183 Stellenbosch (LU-16553 TP592-2023) Northern Extension\2645 Farm 182 &183 Stellenbosch (LU-16553 TP592-2023)_5 (approved - amended layout)_clean.doc


DAS VALLEY RESERVOIR - EXISTING
SSW.RS
SSW.RS4 450Ø
PROPOSED NORTHERN EXTENSION DEVELOPMENT
NEW RESERVOIR SSW.RS1 10ML
SSW.RS1 400Ø
SSW.30 450Ø
KLEINVALLEI RESERVOIR - EXISTING
SSW.30 450Ø
PAPEGAAIBERG RESERVOIR - EXISTING
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DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THEY ARE NOT VALID WITHOUT THE SIGNATURE OF APPROVAL WILL BE HELD AT THE RESPONSIBILITY OF THE APPROVER
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CLIENT
STELLENBOSCH

DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER

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SCALE	1:5000
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DESIGNED	E. JORDAAN
REVIEWED	C. VAN DER WALT

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
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C. VAN DER WALT ECSA 20070221

PROJECT	NORTHERN EXTENSION
TITLE	PHASE 1A: BULK SEWER UPGRADES
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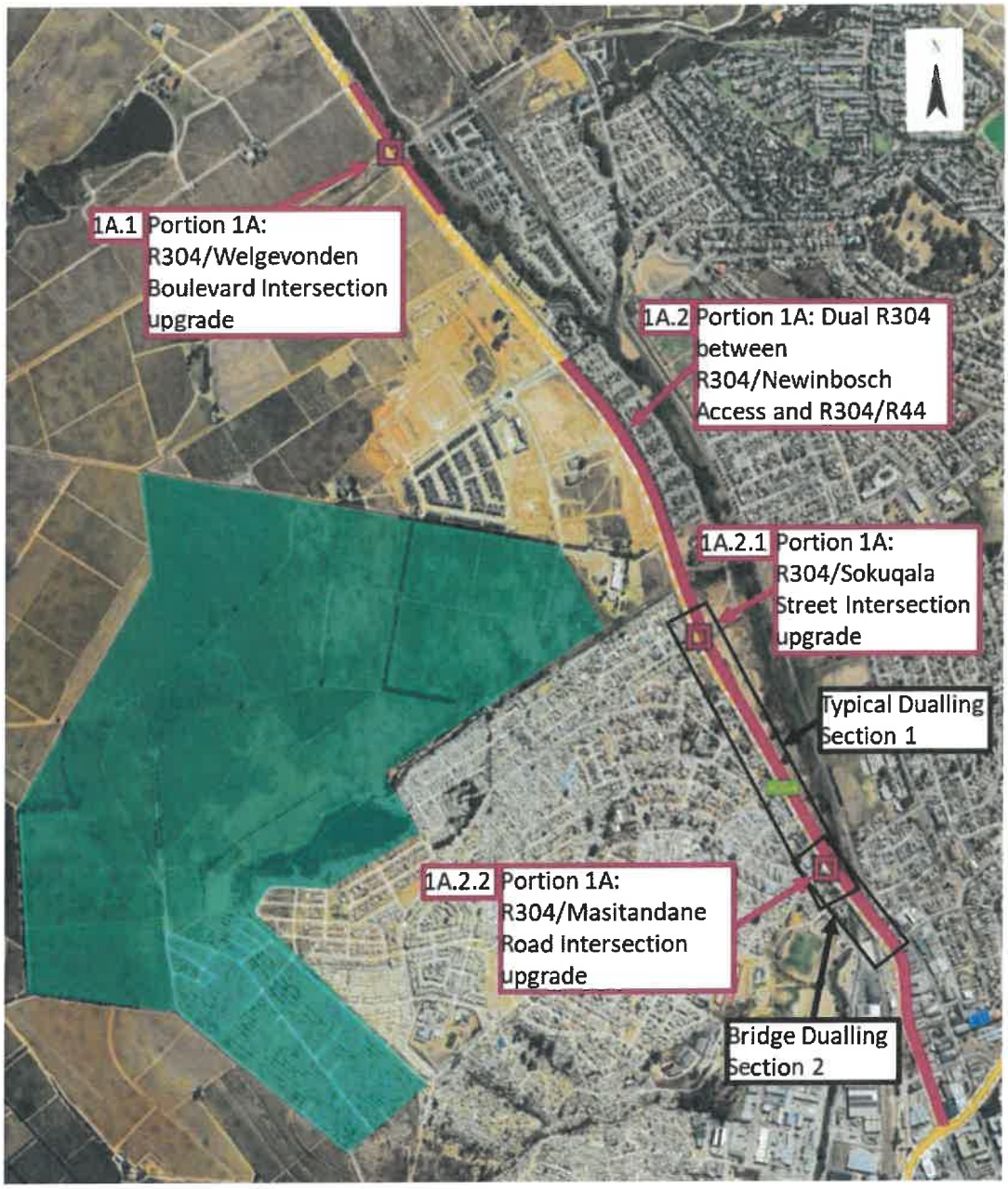


Figure 30: Portion 1A Required Road Infrastructure

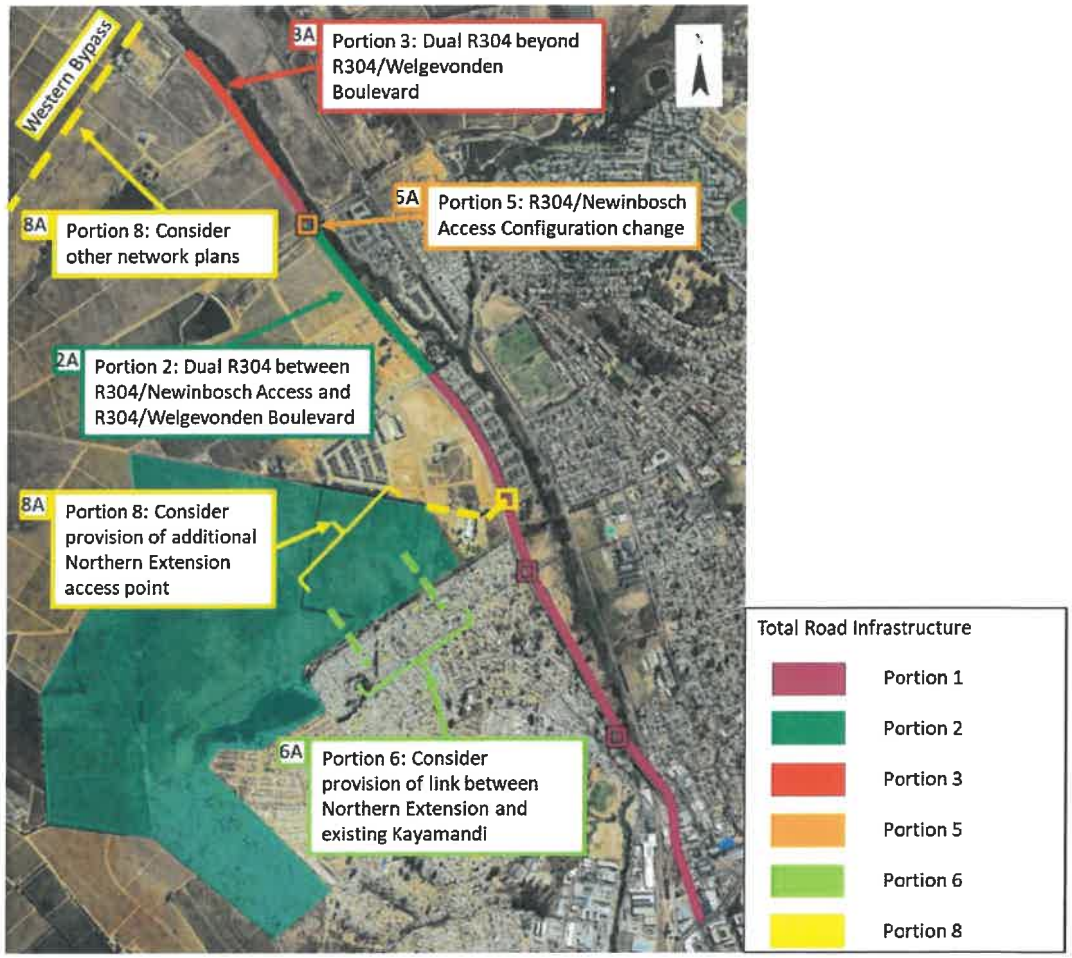
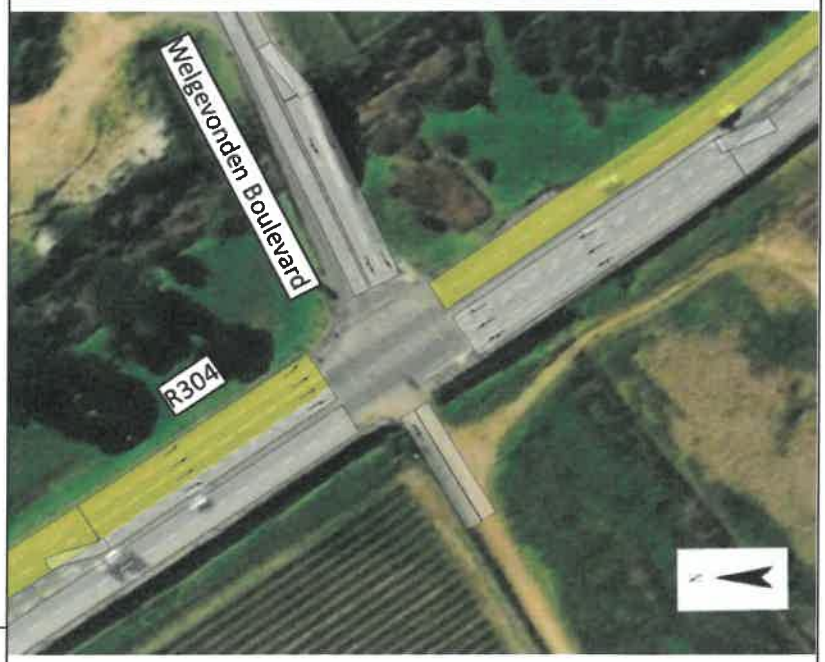


Figure 31: Total Required Road Infrastructure

Appendix E

Basic Road Infrastructure Concepts

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 1 Infrastructure Upgrades		
A1.1 - R304 / Welgevonden Boulevard Intersection Upgrade		
0 AM Peak Hour trips. **0 PM Peak Hour trips.**	It is proposed to upgrade the R304/Welgevonden Boulevard intersection. It is proposed to widen the intersection by providing additional through lanes for both directions of travel leading up to the intersection. After which the R304 will continue as a single lane per direction. Turning lanes will also be provided for both the right turn moves and a turning lane for the left turning movement for vehicles traveling into Stellenbosch.	 
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 16 990 595.00		

<table>
<tr><th>Upgrade Trigger (Development Trips)</th><th>Description</th><th>Basic Concepts</th></tr>
<tr><td colspan="3">A1.2 - R304 Dualling between Newinbosch Access and R44</td></tr>
<tr><td>0 AM Peak Hour trips.

0 PM Peak Hour trips</td><td>It is proposed to dual the R304 between the existing R304/Newinbosch Access and R304 / R44 (Adam Tas Road) intersections to alleviate congestion on the R304 and to accommodate the growth in background traffic. This will provide 2 lanes per direction on the R304.

This in turn will result in upgrades required for both the R304/Sokuqala Street and R304/Masitandane Road intersections, indicated as upgrade A1.2.1 and A1.2.2 respectively on Figure 30.

Additionally, the bridge near the R304/Masitandane Road intersection must be widened.</td><td>A1.2.1 – Upgrade of R304 / Sokuqala Street

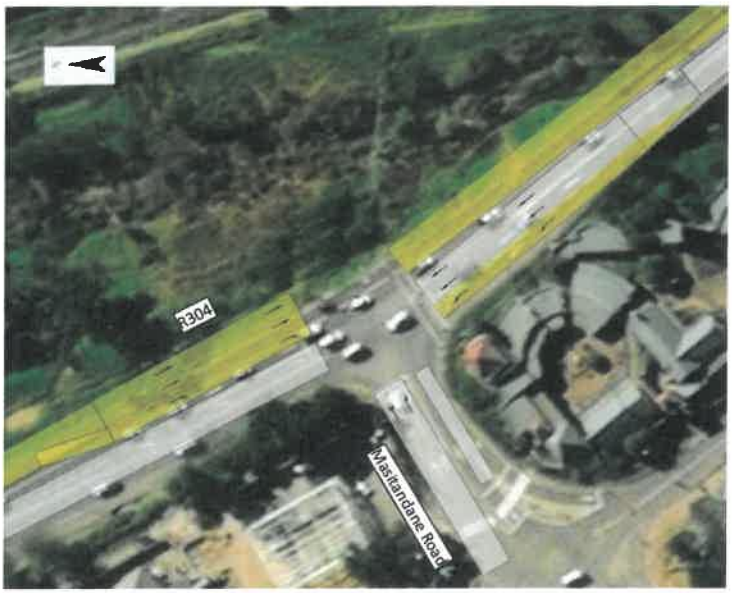
A1.2.2 – Upgrade of R304 / Masitandane Road
</td></tr>
<tr><td colspan="2">Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 178 221 530.00</td><td></td></tr>
</table>



Figure 38:Typical Dualling Section 1 of R304

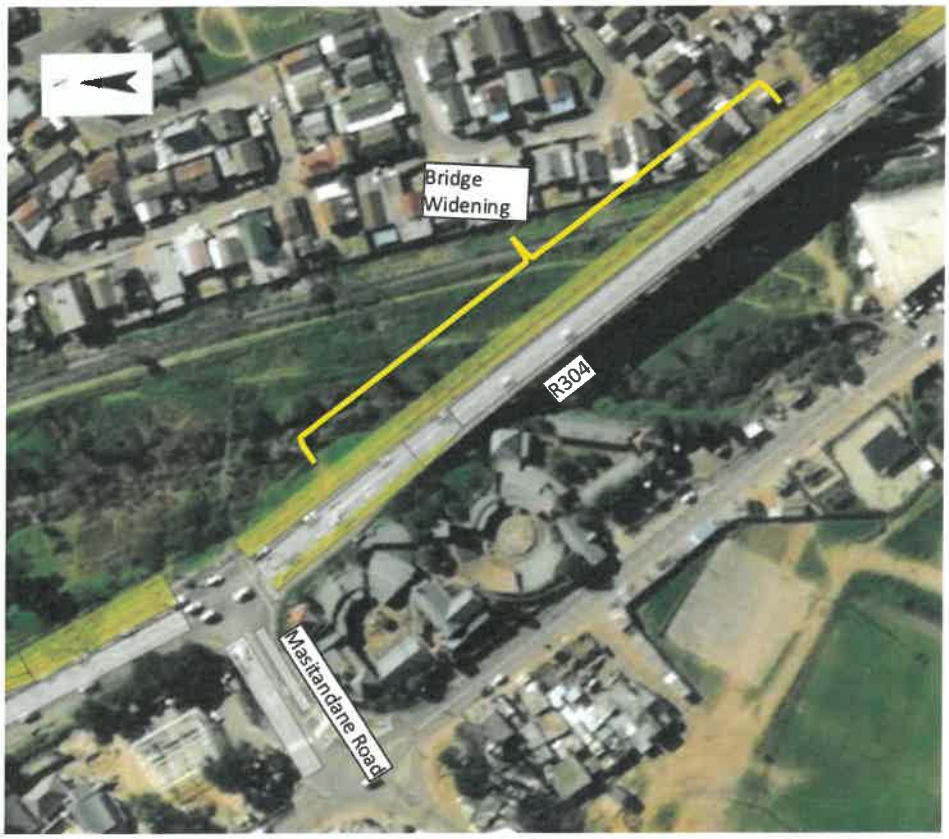
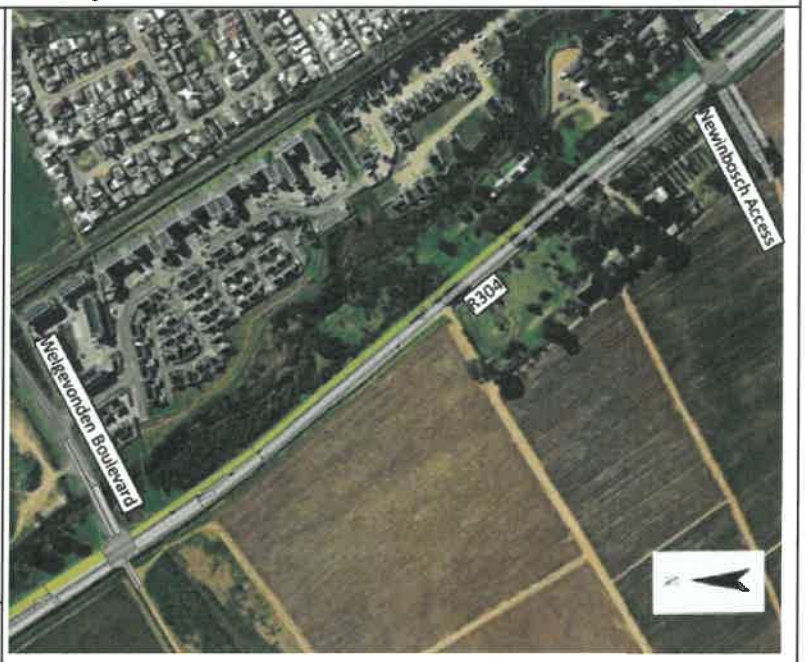
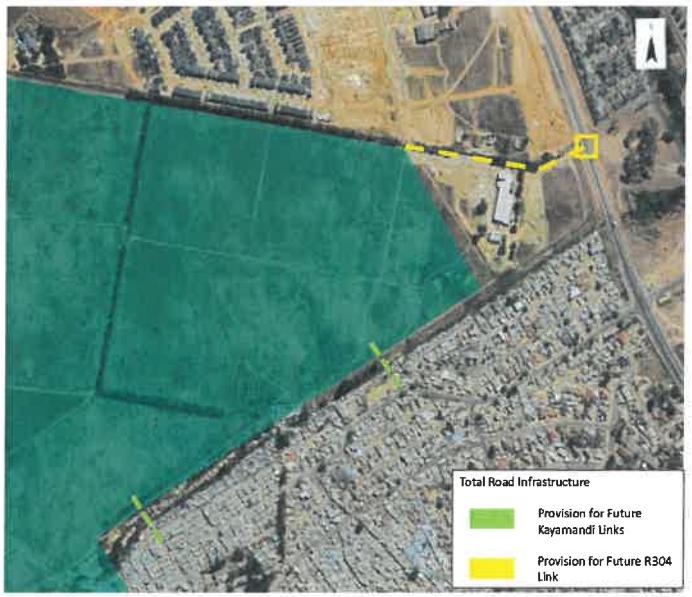
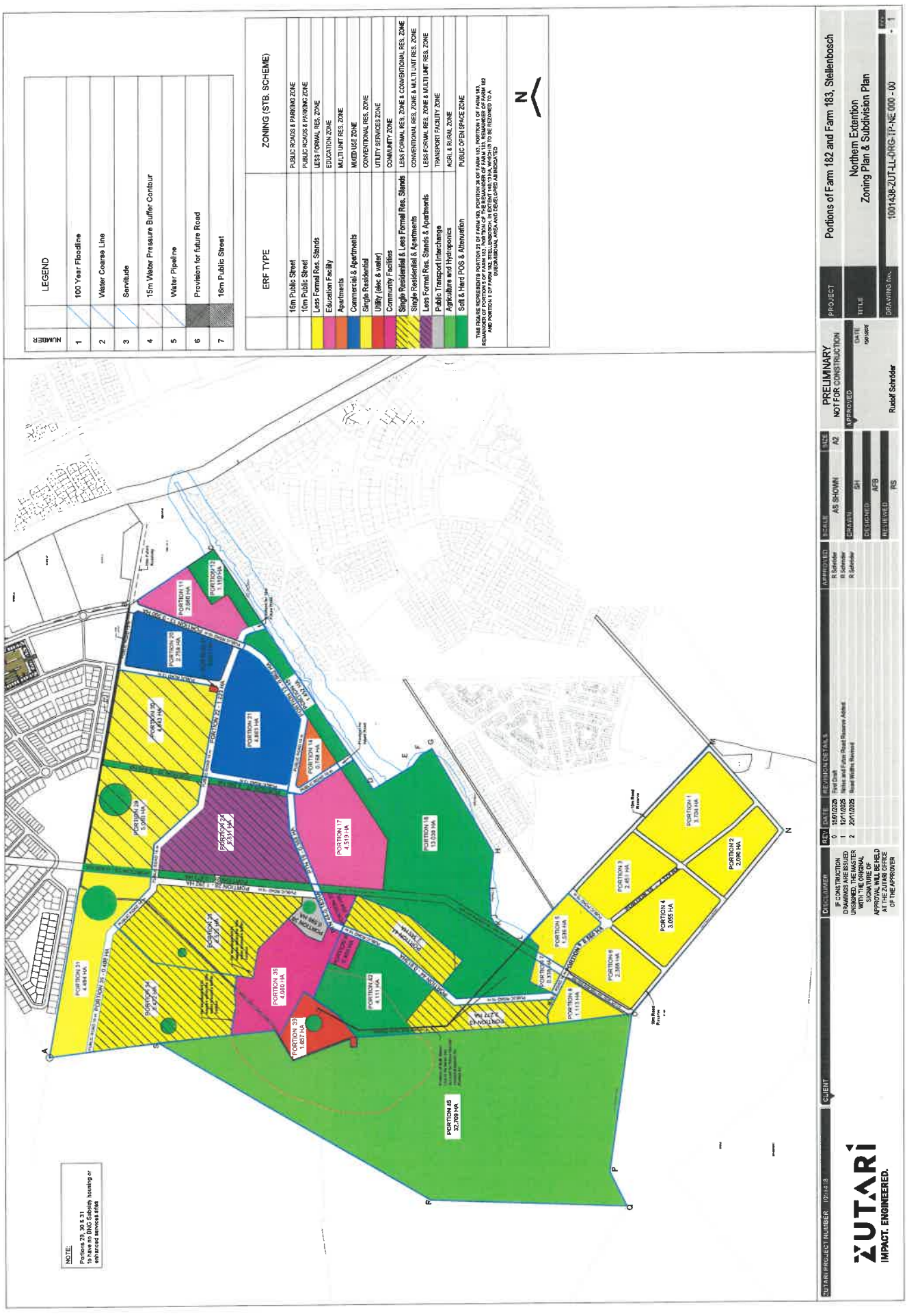


Figure 39: Bridge Dualling Section 2 of R304

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 2 Infrastructure Upgrades		
A2 - R304 Dualling between Welgevonden Boulevard and Newinbosch Access		
311 AM Peak Hour trips. **230 PM Peak Hour trips**	It is proposed to completely dual the R304 between the R304/Welgevonden Boulevard and R304/Newinbosch Access intersections.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 10 829 508.00		
Portion 3 Infrastructure Upgrades		
A3 - R304 Extended Dualling beyond Welgevonden Boulevard		
478 AM Peak Hour trips. **397 PM Peak Hour trips**	It is proposed to extend the dualling of the R304 beyond the Welgevonden Boulevard and R304 intersection for the traffic flowing out of Stellenbosch, however the length of the extension is uncertain. The extension of the dualling may have to be to the next intersection, which is the R304/Bottelary Road. Or with the link with potential Western Bypass, which may link up with the R304, approximately 800 m from R304/Welgevonden Boulevard intersection. The costing for this upgrade was based on the dualling extending to the planned link with the potential Western Bypass link.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 18 000 415.00*		

Upgrade Trigger (Development Trips)	Description	Basic Concepts
Portion 6 Infrastructure Upgrades		
A6 – Consideration of an Additional Access Point		
761 AM Peak Hour trips. **650 PM Peak Hour trips**	At this point of the development an additional access will be required to alleviate traffic on the existing R304/Newinbosch Access intersection. The layout of the development provides provisions for future links. Consideration should be given to utilising one of the links for providing an additional access point for the Northern Extension to the existing Kayamandi.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 23 407 846.00		
Portion 8 Infrastructure Upgrades		
A8 – Consideration of second Additional Access Point and Greater Network Plan		
942 AM Peak Hour trips. **754 PM Peak Hour trips**	At this point the greater network plan will be required to accommodate the bulk demand travelling along the R304. Future plans like the Western Bypass needs to be considered at this point in time. Furthermore, consideration can also be given in terms of providing another access point for the Northern Extension. The layout plan provides multiple provisions for future links that provide additional access.	
Estimated Construction Cost (Excl VAT & Incl Professional Fees): R 34 010 379.76		


LEGEND
NUMBER
1 100 Year Floodline
2 Water Coarse Line
3 Servitude
4 15m Water Pressure Buffer Contour
5 Water Pipeline
6 Provision for future Road
7 16m Public Street
ERF TYPE
ZONING (STB. SCHEME)
16m Public Street
PUBLIC ROADS & PARKING ZONE
10m Public Street
PUBLIC ROADS & PARKING ZONE
Less Formal Res. Stands
LESS FORMAL RES. ZONE
Education Facility
EDUCATION ZONE
Apartments
MULTI UNIT RES. ZONE
Commercial & Apartments
MIXED USE ZONE
Single Residential
CONVENTIONAL RES. ZONE
Utility (elec & water)
UTILITY SERVICES ZONE
Community Facilities
COMMUNITY ZONE
Single Residential & Less Formal Res. Stands
LESS FORMAL RES. ZONE & CONVENTIONAL RES. ZONE
Single Residential & Apartments
CONVENTIONAL RES. ZONE & MULTI UNIT RES. ZONE
Less Formal Res. Stands & Apartments
LESS FORMAL RES. ZONE & MULTI UNIT RES. ZONE
Public Transport Interchange
TRANSPORT FACILITY ZONE
Agriculture and Hydroponics
AGRI. & RURAL ZONE
Soft & Hard POS & Attenuation
PUBLIC OPEN SPACE ZONE
THIS FIGURE REPRESENTS PORTION 23 OF FARM 183, PORTION 36 OF FARM 183, PORTION 1 OF FARM 183, REMAINDER OF FARM 183, PORTION 1 OF FARM 182, REMAINDER OF FARM 182 AND PORTION 1 OF FARM 182, STELLENBOSCH, IN EXTENT 146.731A, WHICH IS TO BE REZONED TO A SUBDIVISIONAL AREA AND DEVELOPED AS INDICATED
N
NOTE:
Portions 29, 30 & 31 to have no BNG Subsidy housing or enhanced services sites
PORTION 21 4.484 HA
PORTION 29 5.961 HA
PORTION 30 4.433 HA
PORTION 31 4.853 HA
PORTION 11 2.980 HA
PORTION 20 2.398 HA
PORTION 12 1.110 HA
PORTION 17 4.519 HA
PORTION 18 13.039 HA
PORTION 35 4.000 HA
PORTION 39 1.857 HA
PORTION 45 32.709 HA
PORTION 1 3.704 HA
PORTION 2 2.090 HA
PORTION 3 2.401 HA
PORTION 4 3.055 HA
PORTION 5 1.336 HA
PORTION 6 2.388 HA
PORTION 8 1.113 HA
10m Road Reserve
PRELIMINARY
NOT FOR CONSTRUCTION
APPROVED
DATE
Rudolf Schröder
PROJECT
Portions of Farm 182 and Farm 183, Stellenbosch
TITLE
Northern Extention
Zoning Plan & Subdivision Plan
DRAWING No.
1001438-ZUT-LL-DRG-TP-NE 000 - 00
SCALE
AS SHOWN
SIZE
A2
DRAWN
SH
DESIGNED
AFB
REVIEWED
RS
APPROVED
R Schröder
R Schröder
R Schröder
CLIENT
DISCLAIMER
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL MAY BE HELD AT THE ZUTARI OFFICE OF THE APPROVER
REV
DATE
REVISION DETAILS
0 15/01/2025 First Draft
1 12/11/2025 Notice and Future Road Reserve Added
2 20/11/2025 Road Widths Revised
ZUTARI PROJECT NUMBER 1001438
ZUTARI
IMPACT. ENGINEERED.

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE J

- A proposal to designate all land intended for community type facilities – including educational and training – to be zoned as "community zone" to enable development processes.

Response to comments:

The proposed subdivision and layout plan is informed by the urban design framework that has been through a major process with inputs from various specialists and workshops with the municipality to craft the current development vision. The proposed urban design for the Northern extension development makes provision for 6 community zone stands and 2 education zone stands, each respective zoning categories' list of consent uses enable the appropriate and required development processes as envisioned.

The proposed zoning changes will be carefuliy considered by the technical team and the Municipality to ensure that any changes made will still fit in with the overall character and the development vision of the urban Design framework. The technical team will also assess whether the application will need to be readvertised if some of the proposed changes are implemented.

7.1.3 Comments received from Newinbosch Development

A number of engagements were held with the developers of the Newinbosch Development during the planning of the project.

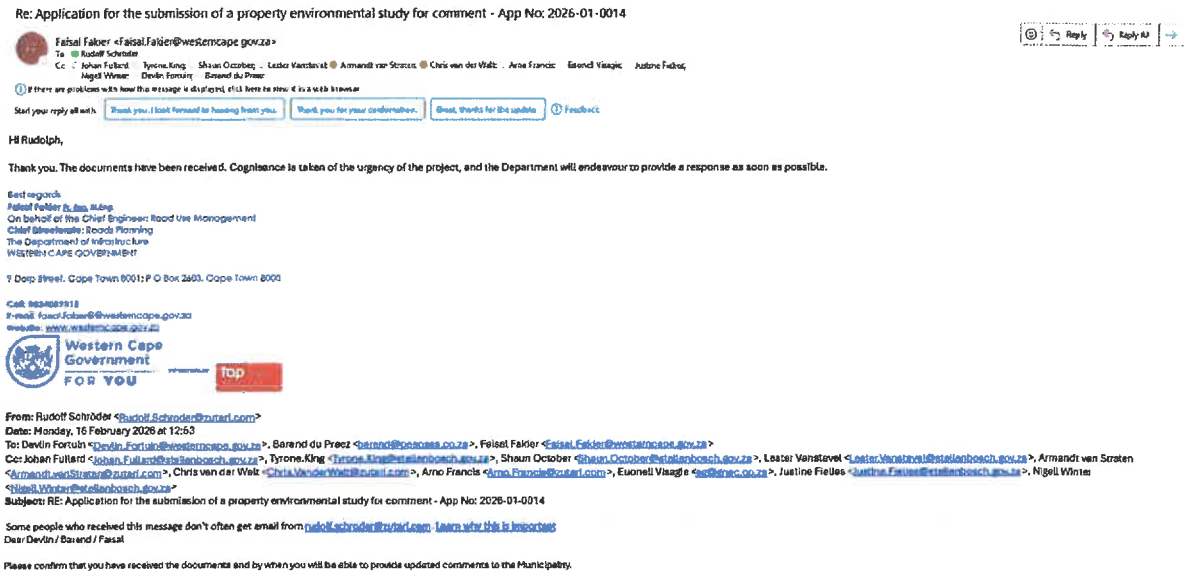
The below table provide a record of the engagements:

Meeting with Francois Nortje (Osmond Lange Architects) regarding Newinbosch Development	**17 June 2021**	Meeting with Francois Nortje (Osmond Lange Architects), Avril Paterson (Osmond Lange Architects), Harold Spies (Similan), Pieter Du Toit (Similan), Chris vd Walt (Zutari) & Elzaan Jordaan (Zutari).
Meeting with Similan to discuss Newinbosch Development & Northern Extension integration	**6 October 2021**	Meeting with Pieter Du Toit (Similan), Avril Paterson (Osmond Lange Architects) Brogan Bradfield (Zutari), Marile van Eeden (Zutari), & Chris vd Walt (Zutari). Plans & drawings exchanged at the time.
Meeting with Similan regarding Newinbosch Development	**14 January 2025**	Meeting with Harold Spies (Similan), Pieter Du Toit (Similan) & Rudolf Schröder (Zutari). Details of layout plan shared with the Newinbosch team.
Latest Layout Plan sent to the Newinbosch Development Team	**23 January 2025**	Email sent to: Harold Spies <harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Chris van der Walt <Chris.VanderWalt@zutari.com>
Meeting between the Municipality and Similan to discuss Newinbosch	**20 August 2025**	<harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>;

Development & Northern Extension integration		Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>;
Comments from Newinbosch	**29 August 2025 – 14 October 2025**	All comments addressed and incorporated into layout plan – see confirmation emails attached.

7.2 Comments received from External Departments

The proposed subdivision and rezoning of Farms 182 and 183 Stellenbosch was submitted to external departments for commentary, the list of the external departments is noted in section 5.5.2 above. A number of engagements and meetings were held with the Provincial Roads Department and a few amendments and adjustments to the development plan have been actioned in response to the comments received. Ongoing engagements are taking place between the Municipality and the Provincial Roads Department regarding the roads master planning and conditions of approval that must be incorporated.



Re: Application for the submission of a property environmental study for comment - App No: 2026-01-0014

Faisal Fakier <Faisal.Fakier@westerncape.gov.za>

Hi Rudolph,

Thank you. The documents have been received. Cognisance is taken of the urgency of the project, and the Department will endeavour to provide a response as soon as possible.

Western Cape Government FOR YOU

From: Rudolf Schröder <Rudolf.Schroder@zutari.com>
Date: Monday, 16 February 2026 at 12:53
To: Devlin Fortuin <Devlin.Fortuin@westerncape.gov.za>, Barend du Preez <barend@pcnassa.co.za>, Faisal Fakier <Faisal.Fakier@westerncape.gov.za>
Cc: Johan Fullard <Johan.Fullard@stellenbosch.gov.za>, Tyrone.King <Tyrone.King@stellenbosch.gov.za>, Shaun October <Shaun.October@stellenbosch.gov.za>, Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Armandt van Straten <Armandt.vanStraten@zutari.com>, Chris van der Walt <Chris.VanderWalt@zutari.com>, Arno Francis <Arno.Francis@zutari.com>, Euonell Visagie <ev@derec.co.za>, Justine Fielies <Justine.Fielies@stellenbosch.gov.za>, Nigell Winter <Nigell.Winter@stellenbosch.gov.za>
Subject: RE: Application for the submission of a property environmental study for comment - App No: 2026-01-0014

Some people who received this message don't often get email from rudolf.schroder@zutari.com. Learn why this is important

Dear Devlin / Barend / Faisal

Please confirm that you have received the documents and by when you will be able to provide updated comments to the Municipality.

Figure 13: Provincial Roads engagements - ongoing

7.3 Comments received from Internal Departments

Prior to the submission of the application and after the submission, numerous workshops and meetings were held with the municipality's infrastructure services departments.

From: Tyrone King
Sent: Thursday, 14 November 2024 16.21
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Myra Francis <Myra.Francis@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Johan Fullard <Johan.Fullard@stellenbosch.gov.za>; Paul Joubert <Paul.Joubert@stellenbosch.gov.za>; Rudolf Schröder <Rudolf.Schroder@zutari.com>; Chris Van Der Walt <Chris.VanderWalt@zutari.com>; Shane Chandaka <Shane.Chandaka@stellenbosch.gov.za>
Subject: FW: Adam Tas Precinct 10 Northern Extension: Amended Layout and Signed memo

Hi Shaun, thanks for the revised layout, it looks like things are moving forward.

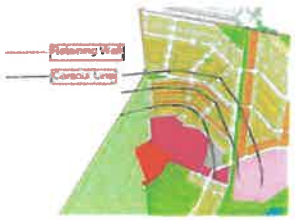
I have had a chat with Rudolph today and he informed me that they are again revising the subdivision layout to only indicate the "superblocks". The internal layouts will then be finalised at a later stage.

But in the meantime, I can provide the following inputs on the layout received, I think it will help when they prepare the new subdivision plan. I have consulted with Paul and Johan and my comments are as follows:

1. I assume that the dashed red line is the 15m pressure contour? Please label as such.
2. Indicate the position of the bulk water pipeline to/from the reservoir. We need to be sure that it is located within the new road reserves and not across any private erven.
3. Indicate all the road reserve widths – Johan Fullard needs this information before he can give further comment and/or approve the roads layout.
4. See notes below on road links to the existing Kayamandi.



5. As discussed with Rudolf 14 Nov 2024 – the orientation of most of the roads are parallel with the contours. This means that there will be substantial retaining walls between the rows of erven. This layout would also require midblock services which are not ideal. Is there a particular reason why this erf orientation was decided on? Does it not make more economical sense to swing the erven 90 degrees with the roads perpendicular to the contours - that would avoid the retaining structures and lead to massive cost savings? I have tried my best to illustrate my point below. Zutari to please investigate and advise.



Regards

Tyrone King Pr Tech Eng
Manager: Development
Infrastructure Services

Figure 14 - Comments on Layout from Infrastructure Services – 14 November 2024

These comments were addressed in the amended layout plan that was submitted on 10 December 2024.

Following the submission of 10 December 2024, some further revisions were required regarding the proposed future access road over the apex school property adjacent to the site of application. Some notes were also required along the 15 metre water pressure contour around the reservoir:



Figure 15 - Comments on Layout from Infrastructure Services - 16 April 2025

These final comments were addressed in the revised layout plan that was submitted on 18 April 2025. Infrastructure Services confirmed that they are happy with the changes in an email sent on 16 April 2025:



Figure 16 – Confirmation from Infrastructure Services that comments have been addressed - 16 April 2025

8 Conclusion

The objective of this Public Participation Report is to outline the public participation and Stakeholder engagement process that was followed, following the submission of the application for the Rezoning and Subdivision of the Portions of Farms 182 and 183, Stellenbosch.

The public participation process followed was in strict compliance with the specifications of the Land Use Planning Bylaw for Stellenbosch Municipality, 2015.

This Public Participation report details the outcomes of the public participation process with all comments received, responses to comments as well as all correspondence to and from external departments. It is believed that any concerns raised by the public and stakeholders have been considered and have sufficiently been addressed. No comments have been received that warrants the proposed development to not proceed or requires any amendments to the layout plan or proposed land uses, unless the municipality would like to make changes as per the proposal received.

KOBUS JANSE VAN RENSBURG
PROJECT MANAGER AND CONSULTING ENGINEER
Postal Address: 14 Kouteri Street
Welgevonden Estate
Stellenbosch
7600
Mobile phone: +27 (0) 828076524
e-mail : kobusvanr@gmail.com

21 February 2024

ZUTARI

Attention: Mr Rudolf Schroder

Refer:
Application in terms of Sections 15(2)(a), 15(2)(d) and 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2015, for the Rezoning and Subdivision of Portions of the Farms 182 and 183 Stellenbosch.
NORTHERN EXTENSION

I herewith submit comments on the report prepared by ZUTARI as a concerned resident in Stellenbosch. My contact details are presented on the letterhead.
I am concerned about the slow pace of development in Kayamandi and have been in discussion with the Municipality in this regard for at least the last ten years. This report is of great significance. It is hoped that the Municipality will expedite the final approval of the proposals and introduce a capable and motivated consultant team to implement the proposals in a phased manner.

1. The present situation in Kayamandi does not provide any or few spaces for commercial activities such as spaza shops, hairdressers, butcheries, repair workshops, etc. Shops and other types of commercial facilities are created on the sidewalks or between and in houses. This creates transport problems and is a safety risk for the residents.
   Transport in the Kayamandi is limited and people walk to facilities.
   I suggest that adequate and ample space (dedicated commercial erven) be made available for commercial use in the neighbourhoods.
2. Public parking space for vehicles (taxis and private vehicles) should be planned in the neighbourhoods otherwise they will park in the streets and block the traffic.
3. Spaces for churches are in great demand in Kayamandi at present. Many church denominations practice their religion in the area and need space to erect facilities.
4. The access roads and thorough routes proposed in the report are inadequate. Paragraph 5.5.5.3 states that the new access to Newinbosch will be " used as a primary access route into the development". This is a wrong assumption or proposal. This access is not designed and planned for access to Kayamandi. This access serves around 1400 households and could not accommodate more traffic.
   No mention is made in the report on the western bypass that is envisaged to divert traffic around Stellenbosch. This bypass passes west of the Northern Kayamandi development and should be planned as the main entrance into Kayamandi and the northern development. This is a definite oversight and should be introduced into the report.
5. I do not see any major road arteries through the proposed development and how it connects with the existing Kayamandi This matter should certainly be considered and incorporated in the proposals. The traffic planning in the report should be reconsidered.

Geraldine Mettler
Municipal Manager
Stellenbosch Municipality

Kayamandi: Subdivision Layout Plan for Northern Extension

Dear Geraldine,

I write in response to the Municipality's proposed subdivision and layout plan for the Kayamandi Northern Extension (numbered 0000-DRG-NN, dated 16 November 2023).

On behalf of the Greater Stellenbosch Trust (GST) and Apex, we express support and wish to cooperate with Stellenbosch Municipality in helping to establish liveable neighbourhoods. In that spirit, we suggest smaller adaptations that might improve the tentative layout's functionality for the new Kayamandi extension.

Context

Our suggestion is mainly about education facilities, and also safety and liveability.

A shortfall in accommodating all learners in Stellenbosch is well documented. The Western Cape Department of Education supports our efforts to mitigate this shortfall.

In 2023, Apex and the GST signed a memorandum of understanding to build a new secondary school and feeder primary school in Kayamandi. Apex made an offer to purchase Portion 37 of Farm 183 and Portion 8 of Farm 81, located on the border of Kayamandi. However, the owner sold Portion 8 of Farm 81 to a developer, and Apex could only buy Portion 37 of Farm 183. This property is good for the secondary school but is too small for both the secondary and primary schools.

We would like to build the new schools in 2024, ready for learners in 2025. We have experience with schools outside Stellenbosch and in Stellenbosch. The GST established Vision Afrika Primary School on instigating of the Education Department in 2016. Apex Secondary School opened on 17 January 2024 in a temporary Kayamandi location with Grade 8 and will add a new grade every year.

Proposed adaptations to the subdivision and layout plan

Our proposed changes are indicated on the enclosed map (Appendix 1).

- Our primary suggestion is that Erf 2737 in the proposed layout, zoned for education use, should be zoned for community facilities and that Erf 2733, adjacent to Portion 37 of Farm 183, marked X on Appendix 1, should be zoned for education. This will allow for a clustered primary and secondary school. The designed will ensure a continuity of public space.

- We also suggest one or more streets in the new extension should continue through to the existing Kayamandi. At the very least, there should be pedestrian walkways from Kayamandi into the new extension. It will enable children to attend school safely without walking or travelling along the R44.
- Apex must submit a site development plan as part of the process to zone and develop Portion 37 of Farm 183 for education. The transport engineers informed us the proposed municipal layout for the subdivision may eventually not comply with provincial regulations. The Province plans to close the present road entrance from the R44 because of the expected traffic volume. They seem to think the Newinbosch access road, parallel to the R44, will link with the Northern Extension north of Portion 37 of Farm 183.
- A complementary third suggestion, not as essential as the first two proposals, could be to exchange the respective zoning of Erf 2736 (education) and Erf 2734 (mixed use). It will further strengthen the idea of a significant education hub and extend the public space maintained by the schools.

As a general observation, could the layout plan not designate all land intended for community-type facilities, including educational and training, as a community zone? It would include places of education, worship, clinics, daycare, welfare, and so on. This should enable and speed up development processes and facilities for the community as non-government initiatives aligned with government policy often provide such public facilities.

Motivation

Our primary proposal would allow private funding for two new schools in Stellenbosch. Despite the urgent need, the Western Cape Department of Education has indicated that they do not have adequate funding to build such schools in the immediate future. Portion 37 of Farm 183, marked X on Appendix 1, should be zoned for education. Education zoning for Erf 2733, and perhaps also Erf 2720, will significantly assist the idea of a clustered education hub and relieve municipal pressure to secure and maintain open space.

Our secondary proposal would allow learners from Kayamandi to travel safely to the new schools. It would also improve traffic flow in general and comply with what we understand to be the future provincial transport requirements.

An educational hub will allow schools to share facilities and certain overheads and benefit learners. It would also address additional needs, like a coding academy for post-matrics who would not otherwise find employment.

Best regards,

Hannes

Rudolf Schröder

From: Maurenique Greyling <maurenique@gmail.com>
Sent: Monday, 11 March 2024 11:02
To: Rudolf Schröder
Cc: Johnson Plant Hire and Civils (Pty) Ltd; Gert-Jan Posthuma; vwhills@iafrica.com; Elmalize Greyling; Andries Van der Walt
Subject: Stellenbosch Northern Extension Project

You don't often get email from maurenique@gmail.com. Learn why this is important

Dear Rudolf,

On behalf of the affected persons title: Moongate 144 as well as representatives of the Devon Valley Farms Association, we would like to kindly request that we set up a meeting with you to address key questions we have regarding the application for consolidation and subdivision of portions 182 and 183 Stellenbosch.

Kindly advise a suitable date/ time that we may get together preferably in early April?

I look forward to hearing from you

Kind regards,

Maurenique Greyling Johnson on behalf of Moongate 144
0826816915

Rudolf Schröder

From: Paul Roviss Khambule <paulroviss@gmail.com>
Sent: Wednesday, 07 February 2024 14:33
To: Rudolf Schröder
Cc: Luthando Mxesibe; Thumakele Gosa
Subject: Request for a meeting: Northern Extension Development

You don't often get email from paulroviss@gmail.com. Learn why this is important

Dear Rudolf,

I trust you are well. I am great.

I am writing on behalf of Imbadu Housing Enablement Cooperative and Khaya Sustainable Development Agency (KSDA).

Would it be possible to get a meeting with your team to learn more about the proposed development: "Northern Extension".

We are looking forward to hearing from you soon.

Kind regards,

Paul Roviss Khambule
about.me/paulroviss



c:+27 (0)72 610 8441 | f: 086 566 1623 |
Facebook: Paul Roviss Khambule
Twitter: @paulroviss
LinkedIn: Paul Roviss Khambule

8 February 2024

Rudolf Schroder
Professional Planner - Integrated Human Settlement Development
Zutari (Pty) Ltd
1 Century City Dr
Century City
Cape Town
7446

Kayamandi: Subdivision Layout Plan (Notice number: 5/2024)

Dear Mr Schroder,

I write in response to the Municipality's proposed subdivision and layout plan for the Kayamandi Northern Extension (numbered 0000-DRG-NN, dated 16 November 2023).

On behalf of the Greater Stellenbosch Trust (GST), Vision Afrika Primary School, and Apex, we express support and willingness to cooperate with Stellenbosch Municipality in helping to establish liveable neighbourhoods. In that spirit, we suggest smaller adaptations that might improve the tentative layout's functionality for the now Kayamandi extension.

Context

Our suggestion is mainly about education facilities, but also about safety and liveability.

The significant shortfall to accommodate all learners in Stellenbosch is well documented. Also the support of the Western Cape Department of Education for our efforts to mitigate this shortfall.

In 2023, Apex and the GST signed a memorandum of agreement to build a new secondary school and feeder primary school in Kayamandi. Apex made an offer to purchase Portion 37 of Farm 183 and Portion 8 of Farm 81, located on the border of Kayamandi. However, the owner sold Portion 8 of Farm 81 to a developer, and we could only buy Portion 37 of Farm 183. This property can accommodate the secondary school but is too small for both the planned secondary and primary schools.

We have funds for the new schools and would like to build the new schools in 2024, ready for learners in 2025. (The Apex Secondary School opened on 17 January 2024 in a temporary Kayamandi location with Grade 8 and will add a new grade every year.)

Proposals

- Our primary suggestion is that Erf 2737 in the proposed layout, zoned for education use, should be zoned for community facilities and that Erf 2733 should be zoned for education. We indicate the suggested changes on an enclosed map. (Appendix 1)
- We also suggest that one or more streets in the new extension should continue through to Kayamandi. At the very least, there should be pedestrian walkways from Kayamandi into the new extension. It will enable children to attend school safely without walking or traveling along the R44.

  We must submit a spatial development plan to rezone Portion 37 of Farm 183 for education use. The transport engineers informed us that the proposed layout for the subdivision may eventually not comply with provincial regulations. The Province plans to close the present road entrance from the R44 to Portion 37 of Farm 183 because of the expected traffic volume. We have marked Portion 37 of Farm 183 on the map containing our proposal with an X.

- A complementary third suggestion, not as essential as the first two proposals, could be to exchange the respective zoning of Erf 2736 (education) and Erf 2734 (mixed use). It will create a significant education hub. This is one of several options that one could explore.

As a general observation, we wonder why the proposed subdivision and layout plan doesn't simply designate all land intended for community type facilities – including educational and training – as "community zone" which includes places of education, worship, clinics, day-care, welfare, and so on. This should enable development processes, specifically in a context where the provision of such public facilities are increasingly provided by the non-government sector, one cannot predict when an institution will need land, and lengthy approval processes add to project cost and viability.

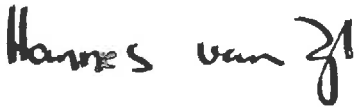
Motivation

Our primary proposal would allow private funding for two new schools in Stellenbosch. Despite the urgent need, the Western Cape Department of Education has already indicated that they do not have adequate funding to build such schools in the immediate future.

Our secondary proposal would allow learners from Kayamandi to travel safely to the new schools. It would also improve traffic flow in general and comply with what we understand to be the future provincial transport requirements.

An educational hub will allow schools to share facilities and certain overheads and benefit learners. It would also address additional needs, like a coding academy for post-matrics who would not otherwise find employment.

Best regards,



hannesvzee@gmail.com
083 303 8544

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ANNEXURE K

- Proof that the notice was sent to Stellenbosch Municipality and that it was placed on the Municipal website (copy of email sent and screen shot of notice on website);
- Proof that the surrounding property owners were notified of the application.
- Proof of the notices sent to the external departments and interested and affected parties.

7 Comments Received From Public

A number of comments were received from the general public.

- 2 response / comments were received from members of the public in response to the application notice.
- 2 requests for a meeting;

All comments received were grouped into categories of concerns or key issues to be addressed, as many of the comments received relate to the same aspect or key issue. Each area of concern is grouped into a main category, each with a number of sub-categories related to that main category.

Refer to Annexure B - Comments Received from the Public as well as referral to sections in Public Participation Report where the comment has been addressed.

7.1 Categories of comments received from the public.

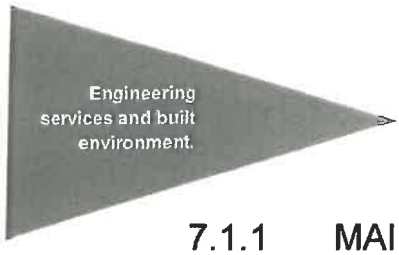
The below section provides an overview of the key issues raised from the comments received. Please find attached all comments received from the public as Annexure A.

The key issues raised during the public participation process have been categorised in the following **two main categories**, each with its own **sub-category**:

	MAIN CATEGORY	SUB-CATEGORY
1.	Engineering services and built environment	▪ Road access and linkages
2.	Institutional processes	▪ Proposed changes to zoning ▪ Proposed land uses

Table 3: Main and subcategory of comments received.

The below section provides an overview of the key issues raised from the comments received, grouped per main category and sub-category as described in the above table.



7.1.1 MAIN CATEGORY: Engineering services and built environment.

SUB-CATEGORY: Road access and linkages

Suggestions have been made to have one or more vehicle and pedestrian links to Kayamandi from the proposed development. Concerns have also been raised regarding the capacity of the Newinbosch access road to be used as a primary access road into the development, and that the thorough routes proposed in the report may be inadequate.

Comment was made that

"no mention is made in the report on the western bypass that is envisaged to divert traffic around Stellenbosch. This bypass passes west of the Northern Kayamandi development and should be planned as the main entrance into Kayamandi and the northern development".

Response to comments

It is noted that residents of Kayamandi rely heavily on NMT and PT modes. It was therefore viewed as essential that the internal roads of the development cater for these modes. The internal roads of the proposed development will have road reserves ranging from 8m wide residential streets to a 16m wide "primary boulevard". A recommendation has also been made to provide NMT facilities along the external network, and also that the NMT network be extended along the Link Road to tie into the internal roads and the NMT facilities provided as part of the Development. A major connecting road through the development and several pedestrian links have been provided for in the layout plan, and provision was also made for roads that could be extended into Kayamandi in the future.

Initially access to the Northern Extension development will be via the Newinbosch Access road and the existing accesses into Kayamandi off the R44. Once 50% of Northern Extension has been developed a new access off the R44 will be required. Thus, the Newinbosch Access will not have to accommodate the total number of trips generated by the Kayamandi Northern Extension.

The implementation of the Western Bypass is still under careful consideration by the Stellenbosch Municipality. Proposing an access to the Western Bypass is not possible since a decision with regards to its alignment and the implementation timeframe is still unknown.

SUB-CATEGORY: Proposed land uses

Comments have been received noting the requirement for public parking, commercial spaces and space for churches.

Response to comments

The main focus of the proposed development is to provide residential opportunities, with access to all types of appropriate community facilities required to serve the community. The proposed urban design framework of the Northern Extension Integrated Mixed-Income Human Settlement Development consists of a number of land uses including;

- **2 Transport facility Zone stands**: One of the primary uses of the Transport facility zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "public parking area", which allows for public parking to be developed if required.

Off street parking for private vehicles will be provided on site where applicable. The number of off-street parking bays will be provided in accordance with the Stellenbosch Municipality Zoning Scheme Bylaws. The Zoning Scheme recommends the number of off-street parking bays to be provided per land use type.

The two proposed public transport interchange facilities planned for the Kayamandi Northern Extension are approximately 5587 sqm and 5397 sqm respectively. Off-street parking/holding areas will be provided for taxis on the site itself, based on the number of valid/approved permit-holding vehicles that may operate in the area (for example, 1 bay per 3 permit-holding vehicle). PTI facilities will also have dedicated bays for pick up and drop off passengers, since the purpose is to act as a Public Transport interchange allowing transfer between different modes of transport.

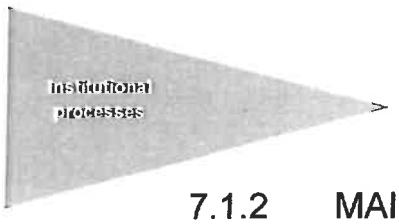
Depending on the Public Transport routes defined for the Northern Extension and where pick up and drop off points are likely to be, public transport embayment's may be provided where necessary.

- **4 Mixed-use Zone stands:** One of the primary uses of the mixed use zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "Business premises (including shops, markets, restaurants, office)", which allows for commercial use if required.

Sufficient spaces have been provided for retail facilities in the current layout plan. All commercial and retail services have been accommodated in the mixed use precinct.

- **6 Community Zone stands:** One of the primary uses of the community zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "place of worship", which allows for the erection of church facilities if required.

The number and type of public facilities and amenities (including public open space and religious facilities) were determined by applying the Individual Social Facility Provision Guidelines (Access, Thresholds, and Site Sizes) outlined in the 'CSRI Guidelines for the Provision of Social Facilities in South African Settlements (2015)'. These guidelines provide direction on the quantity, type, and plot size of public facilities based on the projected population of the new development. For the Northern Extension, the estimated population size was calculated by multiplying the estimated number of dwellings by the average household size for Stellenbosch. There are 5 religious facilities required for the proposed population and these have been accommodated within the development framework.



7.1.2 MAIN CATEGORY: Institutional processes

SUB-CATEGORY: Proposed changes to zoning

Comments and proposals have been received regarding the zoning of specific erven including;

- Erf 2737 in the proposed layout, zoned for education use, should be zoned for community facilities and that Erf 2733 should be zoned for education.
- Exchange the respective zoning of Erf 2736 (education) and Erf 2734 (mixed use) to create a significant education hub.

- A proposal to designate all land intended for community type facilities – including educational and training – to be zoned as "community zone" to enable development processes.

Response to comments

The proposed subdivision and layout plan is informed by the urban design framework that has been through a major process with inputs from various specialists and workshops with the municipality to craft the current development vision. The proposed urban design for the Northern extension development makes provision for 6 community zone stands and 2 education zone stands, each respective zoning categories' list of consent uses enable the appropriate and required development processes as envisioned.

The proposed zoning changes will be carefully considered by the technical team and the Municipality to ensure that any changes made will still fit in with the overall character and the development vision of the urban Design framework. The technical team will also assess whether the application will need to be readvertised if some of the proposed changes are implemented.

7.1.3 Comments received from Newinbosch Development

A number of engagements were held with the developers of the Newinbosch Development during the planning of the project.

The below table provide a record of the engagements:

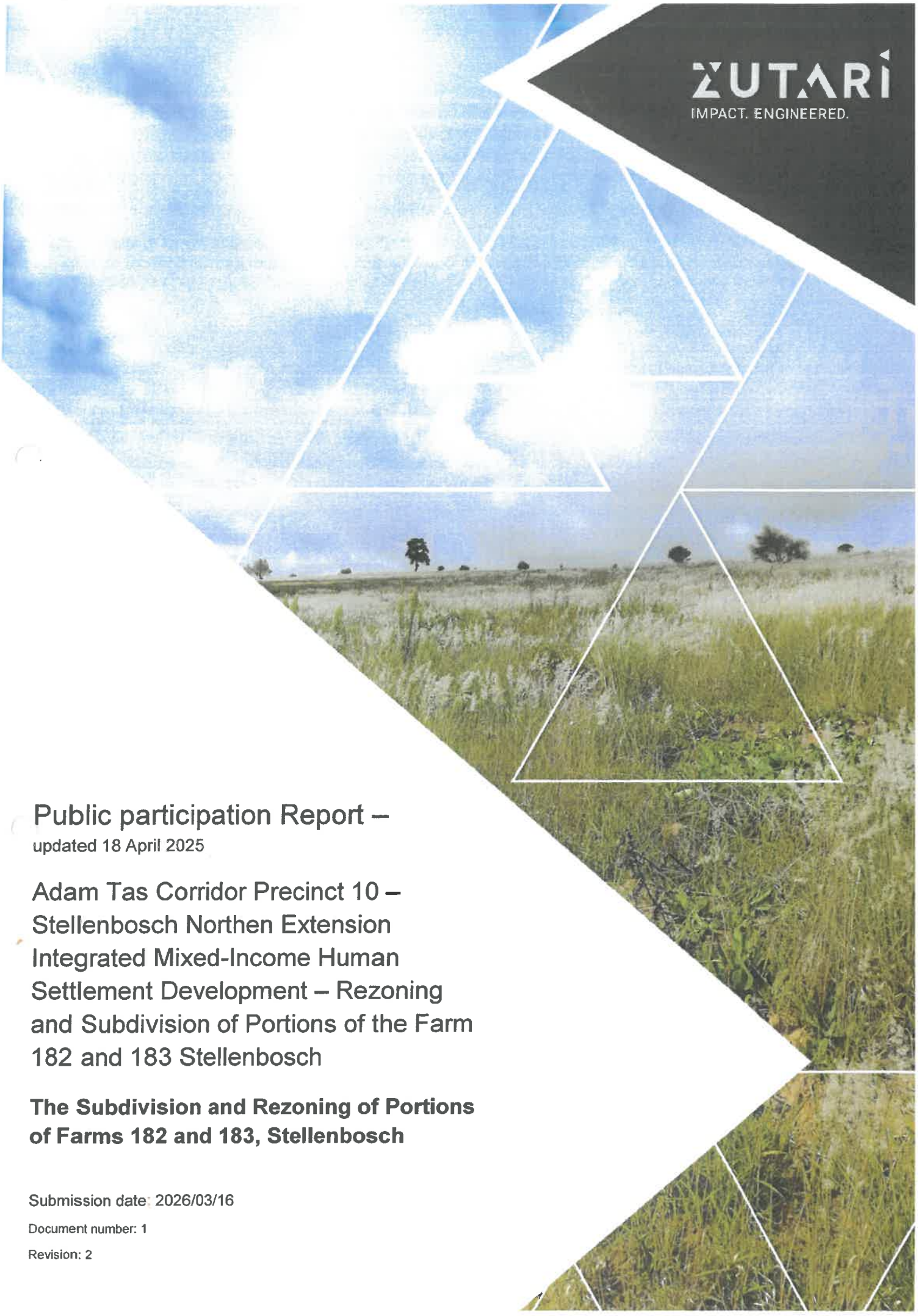
Meeting with Francois Nortje (Osmond Lange Architects) regarding Newinbosch Development	**17 June 2021**	Meeting with Francois Nortje (Osmond Lange Architects), Avril Paterson (Osmond Lange Architects), Harold Spies (Similan), Pieter Du Toit (Similan), Chris vd Walt (Zutari) & Elzaan Jordaan (Zutari).
Meeting with Similan to discuss Newinbosch Development & Northern Extension integration	**6 October 2021**	Meeting with Pieter Du Toit (Similan), Avril Paterson (Osmond Lange Architects) Brogan Bradfield (Zutari), Marile van Eeden (Zutari), & Chris vd Walt (Zutari). Plans & drawings exchanged at the time.
Meeting with Similan regarding Newinbosch Development	**14 January 2025**	Meeting with Harold Spies (Similan), Pieter Du Toit (Similan) & Rudolf Schröder (Zutari). Details of layout plan shared with the Newinbosch team.
Latest Layout Plan sent to the Newinbosch Development Team	**23 January 2025**	Email sent to: Harold Spies <harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Chris van der Walt <Chris.VanderWalt@zutari.com>
Meeting between the Municipality and Similan to discuss Newinbosch	**20 August 2025**	<harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>;

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ANNEXURE L

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Public participation Report –
updated 18 April 2025

Adam Tas Corridor Precinct 10 – Stellenbosch Northen Extension Integrated Mixed-Income Human Settlement Development – Rezoning and Subdivision of Portions of the Farm 182 and 183 Stellenbosch

The Subdivision and Rezoning of Portions of Farms 182 and 183, Stellenbosch

Submission date: 2026/03/16

Document number: 1

Revision: 2

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Document number	1		**Project number**		1001438	
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Client contact	Shaun October Programme Manager Department: Housing Development Directorate: Planning & Economic Development T: +27 21 808 8756 NPK Building, corner of Rynveld and Van Riebeeck Streets, 2nd Floor, Stellenbosch, 7600		**Client reference**		Northern Extension Integrated Mixed-Income Human Settlement Development - Stellenbosch	
Rev	**Date**	**Revision details/status**	**Author**	**Reviewer**	**Verifier** (If required)	**Approver**
0	2024/04/09	Public Participation Report	Nondumiso Buthelezi	Rudolf Schröder	Chris vd Walt	Rudolf Schröder
1	2025/04/18	Updated Report	Nondumiso Buthelezi	Rudolf Schröder	Chris vd Walt	Rudolf Schröder
2	2026/03/16	Updated Report	Nondumiso Buthelezi	Rudolf Schröder	Chris vd Walt	Rudolf Schröder
Current revision	2					

Approval			
Author signature		Approver signature	
Name	Nondumiso Buthelezi	Name	Rudolf Schröder
Title	Professional Planner	Title	Professional Planner

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Figure 2: Section 41 Compliance letter.

Figure 3: Advertising instructions as prescribed by the Municipality

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Figure 5: Screenshot to notice placed on municipal website.

Figure 6: Screenshot of notice placed on municipal website.

Figure 7 - Site Notice Locations

Figure 8: Notice placed on site.

Figure 9: Notice placed on site.

Figure 10 - Example of letter sent to surrounding property owners

Figure 11: Example of email sent requesting comments from external departments.

Tables

Table 1: List of affected property owners and community organisations affected.

Table 2: List of external departments requested for comments.

Table 3: Main and subcategory of comments received.

Annexures

Annexure A – Northern Extension response to comments matrix

Annexure B - Comments Received from the Public

1 INTRODUCTION AND BACKGROUND

1.1 Introduction

Stellenbosch has grown significantly as an educational, commercial and tourism node. This growth and influx of people resulted in the need for an integrated mixed-income human settlement project. Stellenbosch Municipality identified the Northern Extension site as an ideal site for an integrated mixed-income human settlement development. Subsequently, Zutari was appointed to evaluate the development potential of the site from an engineering, planning and environmental perspective.

The main objective is to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, to guide the development framework and to obtain town planning (Land Use Planning Rights) and development rights. Zutari is appointed as a multidisciplinary team of professional consultants to conduct the required investigations and studies to obtain planning and development rights in terms of applicable legislative Policies and by-laws of the Stellenbosch Municipality.

An application was made for the consolidation, rezoning and subdivision of the following portions of the Farms 182 and 183 Stellenbosch in order to create an integrated mixed-income human settlement development:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

1.2 Background

The Municipality is aiming to facilitate the development of ±4000 to ± 6000 residential opportunities, as well as providing the required social amenities and public facilities required. The feasibility studies that have been undertaken, included identifying developable land within the study area (different farmland identified).

The purpose of the project is to conduct various studies to determine if the Northern Extension site can accommodate an integrated mixed-income human settlement development. Through this project, Stellenbosch Municipality aims to facilitate the development of ±4000 to ± 6000 residential opportunities including the required social and public facilities within the Site. The project will guide the development framework for the Northern Extension site through a Broad Conceptual Urban Design Framework and also obtain planning and development rights in terms of the applicable legislative policies and by-laws of the Stellenbosch Municipality.

The main objective was to undertake a Broad Conceptual Urban Design framework for the Northern Extension, Stellenbosch, for a mixed-income development, creating housing opportunities for a wide range of income categories. The project aims to:

- Propose and analyse different development options;
- Identify different residential typologies and densities;
- Identify relevant human settlements development initiatives to draw lessons and examples of good practice from;

- Address challenges of land invasion on a portion of the site; and
- Investigate the current traffic situation and make preliminary proposals in respect of the additional demand that will be created.

Extensive investigations and studies have been undertaken during the planning and design of the proposed developed which culminated in the final layout of the proposed development which forms the basis of this rezoning and subdivision application.

An application has been submitted in terms of Section 15(2) for the consolidation, rezoning and subdivision of the following Portions of the Farms 182 and 183 Stellenbosch:

- Portion 23 of Farm 183
- Portion 36 of Farm 183
- Remainder of Farm 182
- Portion of the Remainder of Farm 183
- Portion 1 of Farm 182
- Portion 1 of Farm 183
- Remainder of Portion 5 of Farm 183

The seven farm portions that is the subject of this application will be referred to as "the site of application".

2 Pre-Application

In terms of **Section 37** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023:

(1) The Municipality may require an owner who intends to submit an application or his or her agent to meet with the authorised employee and, where applicable, with employees of other relevant organs of state for a pre-application consultation before he or she submits an application to the Municipality in order to determine the information and documents that must be submitted with the application.

(2) The Municipality may issue guidelines regarding—

(a) applications that require a pre-application consultation;

(b) the nature of the information and documents that must be submitted with an application;

(c) the attendance of employees from the Municipality or other organs of state at a pre-application consultation; and

(d) the procedures at a pre-application consultation.

(3) The Municipality must keep minutes of the proceedings of a pre-application consultation.

In terms of this application and the development proposal contained herein, several consultation sessions were held with the project stakeholders and relevant municipal officials and a formal pre-application was submitted to the Municipality on 30 June 2023, where-after a pre-planning consultation was held with the Stellenbosch Municipality's Planning Department.

Some technical adjustments to the layout plan were required whereafter it was confirmed that the applicant can proceed with the submission of a formal rezoning and subdivision application.

Following the feedback received on the pre-application, a rezoning and subdivision application was formally submitted to the Municipality's Planning Department on 1st December 2023.

3 Application for Rezoning and Subdivision

A Rezoning and Subdivision application was submitted on the 1st of December 2023. The application was amended in December 2024. Application was made for the following:

a) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the subdivision of the Remainder of Farm 183 into two Portions.

b) In terms of Section 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

c) In terms of Section 15(2)(a) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the rezoning of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:
   - 1338 Conventional Residential Zone stands.
   - 1354 Less Formal Residential Zone stands.
   - 8 Multi-unit Residential Zone stands.
   - 25 Public Open Space Zone stands.
   - 2 Transport Facility Zone stands.
   - 4 Mixed Use Zone stands.
   - 2 Education Zone stands.
   - 2 Agriculture and Rural Zone stands.
   - 3 Utility Zone stands.
   - 6 Community Zone stands.
   - Public Roads and Parking

   as shown on the proposed Subdivision plan

d) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the Subdivision of the consolidated property in accordance with the Subdivision plan, in order to give effect to the proposed land uses.

e) Approval of the Phasing Plan.

Proof of submission is shown below:

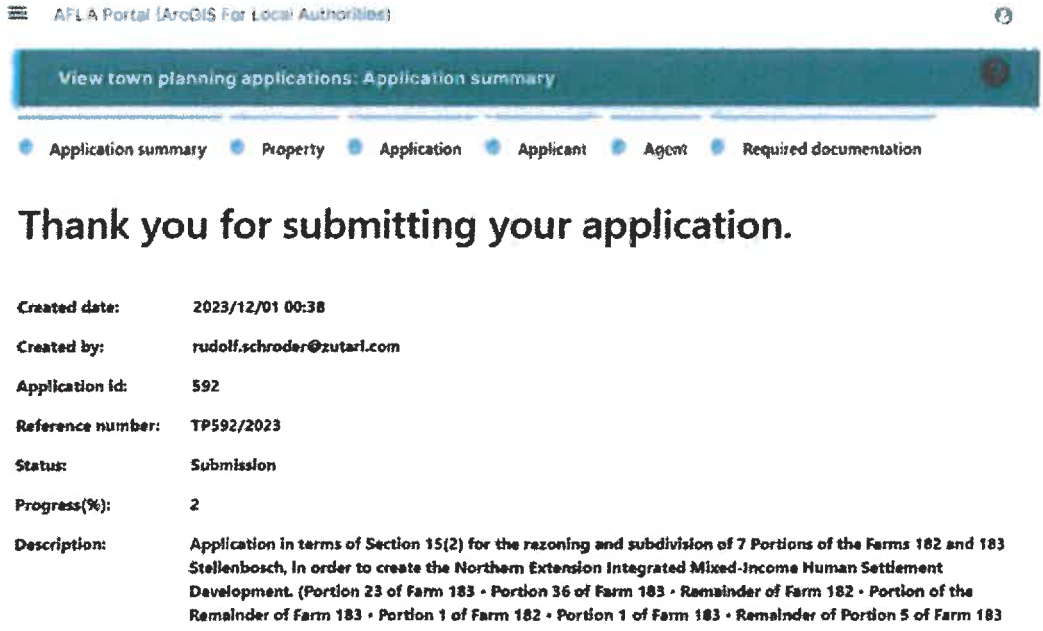
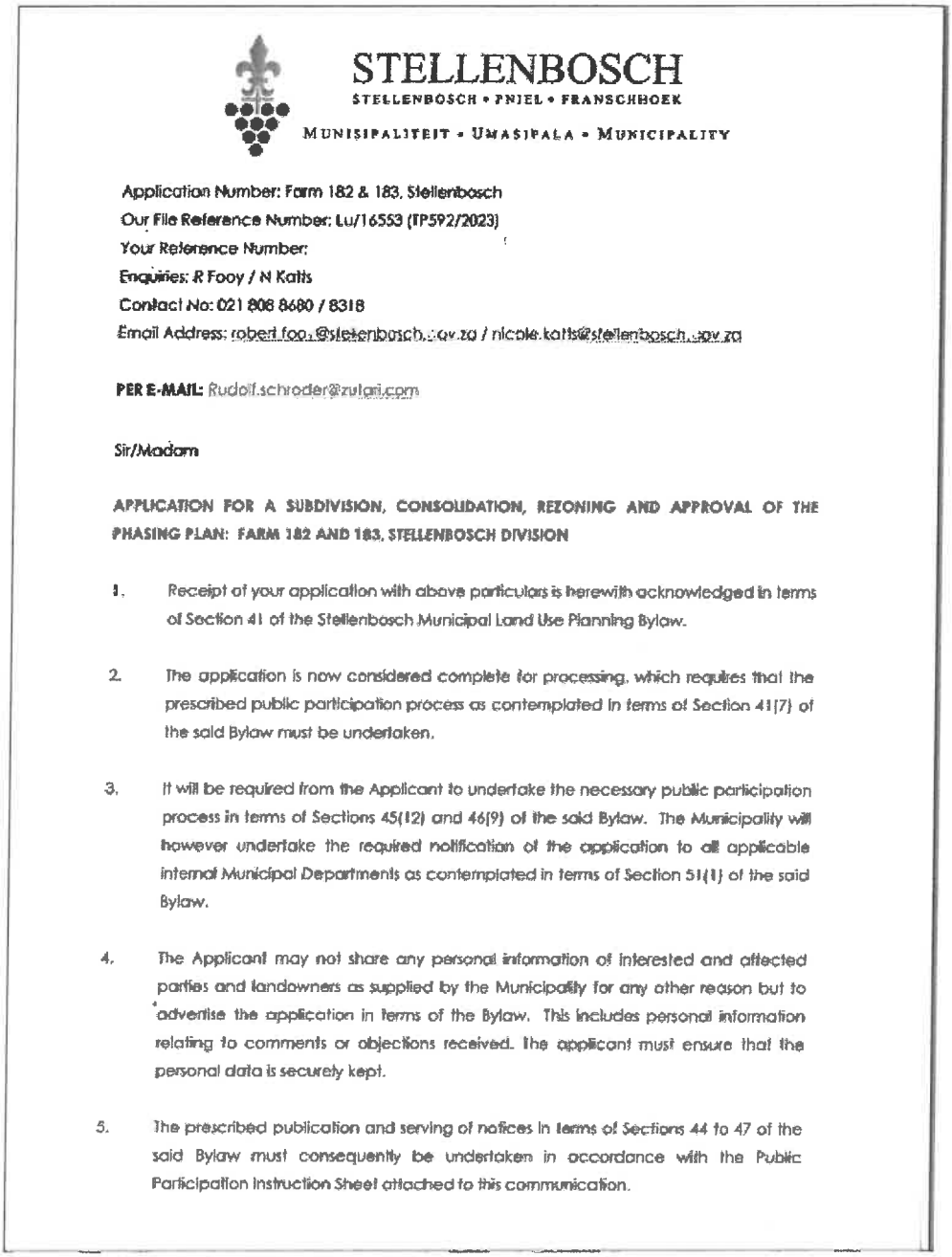


Figure 1: Screenshot of submission of application.

4 Section 41 Compliance Letter - Confirmation of Complete Application Submitted

The application for the Rezoning and Subdivision of the Portions of Farms 182 and 183, Stellenbosch, was submitted to the Municipality's Planning Department in terms of Section 15 of the Stellenbosch Municipality Land Use Planning By-Law, 2015 on 1 December 2023.

A Section 41 Compliance letter was issued on 1 January 2024 confirming that the application is deemed to be complete and that the public participation processes can be undertaken:



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Application Number: Farm 182 & 183, Stellenbosch
Our File Reference Number: Lu/16553 (TP592/2023)
Your Reference Number:
Enquiries: R Fooy / N Katts
Contact No: 021 808 8680 / 8318
Email Address: robert.fooy@stellenbosch.gov.za / nicole.katts@stellenbosch.gov.za

PER E-MAIL: Rudolf.schroder@zutari.com

Sir/Madam

APPLICATION FOR A SUBDIVISION, CONSOLIDATION, REZONING AND APPROVAL OF THE PHASING PLAN: FARM 182 AND 183, STELLENBOSCH DIVISION

1. Receipt of your application with above particulars is herewith acknowledged in terms of Section 41 of the Stellenbosch Municipal Land Use Planning Bylaw.

2. The application is now considered complete for processing, which requires that the prescribed public participation process as contemplated in terms of Section 41(7) of the said Bylaw must be undertaken.

3. It will be required from the Applicant to undertake the necessary public participation process in terms of Sections 45(12) and 46(9) of the said Bylaw. The Municipality will however undertake the required notification of the application to all applicable internal Municipal Departments as contemplated in terms of Section 51(1) of the said Bylaw.

4. The Applicant may not share any personal information of interested and affected parties and landowners as supplied by the Municipality for any other reason but to advertise the application in terms of the Bylaw. This includes personal information relating to comments or objections received. The applicant must ensure that the personal data is securely kept.

5. The prescribed publication and serving of notices in terms of Sections 44 to 47 of the said Bylaw must consequently be undertaken in accordance with the Public Participation Instruction Sheet attached to this communication.

Figure 2: Section 41 Compliance letter.

5 Amendment of Application

The application was amended on 10 December 2024 with a revised layout and amending the application to only apply for the rezoning of the site to a subdivisional area (and not the detailed subdivision of all individual erven).

The amended application was submitted for the following:

a) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **subdivision** of the Remainder of Farm 183 into two Portions.

b) In terms of Section 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

c) In terms of Section 15(2)(a) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **rezoning** of the consolidated property from "Agriculture and Rural Zone" to a "**subdivisional area**" in order to allow for the following uses: • Conventional Residential Zone stands

- Less Formal Residential Zone stands
- Multi-unit Residential Zone stands
- Public Open Space Zone stands
- Transport Facility Zone stands
- Mixed Use Zone stands
- Education Zone stands
- Agriculture and Rural Zone stands
- Utility Zone stands
- Community Zone stands
- Public Roads and Parking

as shown on the proposed Northern Extension Development Plan

d) Approval of the **Phasing** Plan.

The amended layout plan illustrates the overall development framework for the site of development and will allow the Stellenbosch Municipality to submit detailed subdivision applications per phase as and when implementation for that phase is planned. The overall land uses, densities and number of units are still the same as per the original application with only some of the land uses that shifted in location within the site responding to comments received from the Municipality.

Responding to comments received from the municipality's infrastructure services departments, some further amendments had to be made to the layout plan. A final revised layout plan was submitted on 10 December 2025.

6 Stakeholder Engagement and Public Participation

The proposed subdivision and rezoning of the Portions of Farms 182 and 183, Stellenbosch, have been subjected to a thorough public participation process in terms of the provisions for public participation as set out in Section 45 of the Stellenbosch Municipality Land Use Planning By-Law, 2015, which entailed the following:

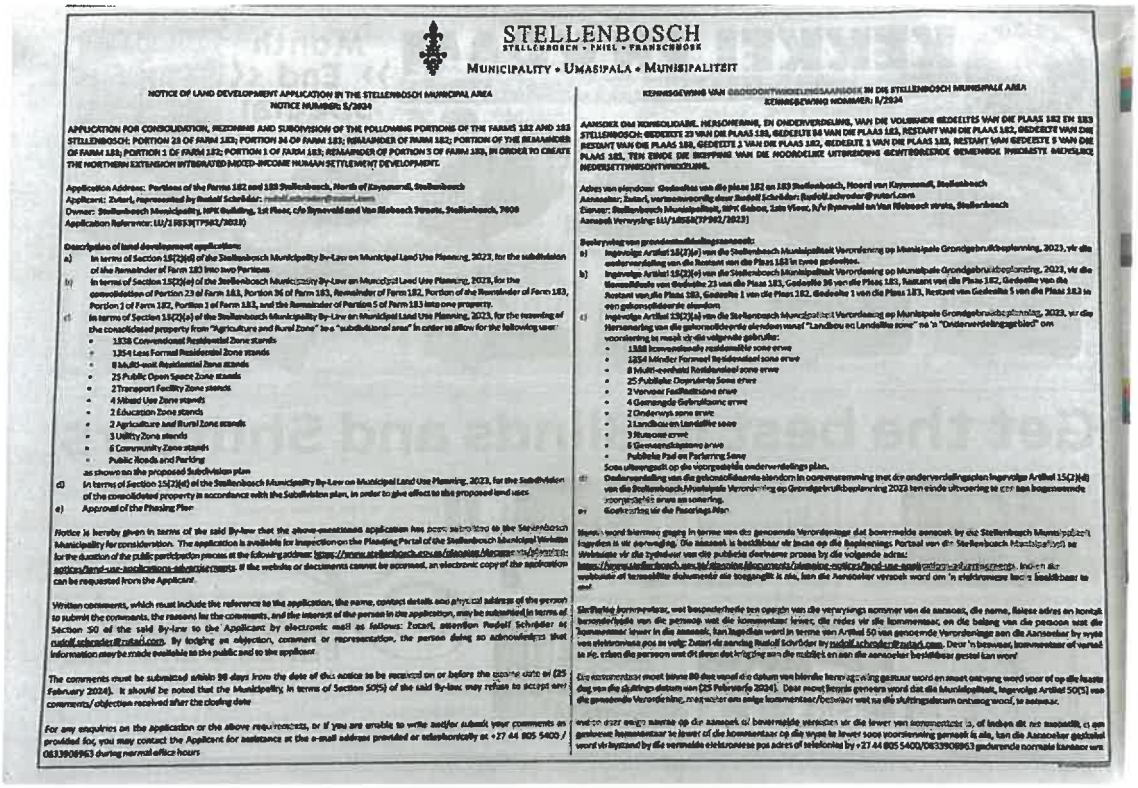
ADVERTISING INSTRUCTION	YES	NO
Advertise in press (Eikestad Nuus)	✓	
Notice on the property	✓	
Registered letters to affected property owners	✓	
Registered letters to community organizations	✓	
External departments	✓	

Figure 3: Advertising instructions as prescribed by the Municipality

More details regarding each of these are provided in the section below:

6.1 Public notice in the Local Newspaper (Eikestad Nuus)

Notice of the proposed subdivision and rezoning of the Portions of Farms 182 and 183, Stellenbosch, has been published in two official languages in the local newspaper (Eikestad Nuus), on 25 January 2024 as prescribed in Section 45 of the Stellenbosch Municipal Land Use Planning By-Law, 2015.



STELLENBOSCH
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MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

NOTICE OF LAND DEVELOPMENT APPLICATION IN THE STELLENBOSCH MUNICIPAL AREA
NOTICE NUMBER: 5/2024

APPLICATION FOR CONSOLIDATION, REZONING AND SUBDIVISION OF THE FOLLOWING PORTIONS OF THE FARMS 182 AND 183 STELLENBOSCH: PORTION 28 OF FARM 183; PORTION 34 OF FARM 183; REMAINDER OF FARM 182; PORTION OF THE REMAINDER OF FARM 183; PORTION 1 OF FARM 182; PORTION 1 OF FARM 183; REMAINDER OF PORTION 5 OF FARM 183, IN ORDER TO CREATE THE NORTHERN EXTENSION INTEGRATED MIXED-INCOME HUMAN SETTLEMENT DEVELOPMENT.

Application Address: Portions of the farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch
Applicant: Zutari, represented by Rudolf Schröder: rudolf.schroder@zutari.com
Owner: Stellenbosch Municipality, MPC Building, 1st Floor, c/o Dymeveld and Van Riebeeck Streets, Stellenbosch, 7600
Application Reference: LU/11853(TP302/2023)

Description of land development application:
a) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the subdivision of the Remainder of Farm 183 into two Portions
b) In terms of Section 15(2)(o) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.
c) In terms of Section 15(2)(o) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the rezoning of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:
- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan
d) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the Subdivision of the consolidated property in accordance with the Subdivision plan, in order to give effect to the proposed land uses
e) Approval of the Phasing Plan

Notice is hereby given in terms of the said By-law that the above-mentioned application has been submitted to the Stellenbosch Municipality for consideration. The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/documents/planning-notices/land-use-applications-advertisements. If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

Written comments, which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments, and the interest of the person in the application, may be submitted in terms of Section 50 of the said By-law to the Applicant by electronic mail as follows: Zutari, attention Rudolf Schröder at rudolf.schroder@zutari.com. By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant

The comments must be submitted within 30 days from the date of this notice to be received on or before the above date or (25 February 2024). It should be noted that the Municipality, in terms of Section 50(5) of the said By-law, may refuse to accept any comments/ objection received after the closing date

For any enquiries on the application or the above requirements, or if you are unable to write and/or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at +27 44 805 5400 / 0833908963 during normal office hours

KENNISGEWING VAN GRONDONTWIKKELINGSAANSOEK IN DIE STELLENBOSCH MUNISIPALE AREA
KENNISGEWING NOMMER: 5/2024

AANSOEK OM KONSOLIDASIE, HERSONERING, EN ONDERVERDELING, VAN DIE VOLGENDE GEDEELTES VAN DIE PLAAS 182 EN 183 STELLENBOSCH: GEDEELTE 28 VAN DIE PLAAS 183, GEDEELTE 34 VAN DIE PLAAS 183, RESTANT VAN DIE PLAAS 182, GEDEELTE VAN DIE RESTANT VAN DIE PLAAS 183, GEDEELTE 1 VAN DIE PLAAS 182, GEDEELTE 1 VAN DIE PLAAS 183, RESTANT VAN GEDEELTE 5 VAN DIE PLAAS 183, TEN EINDE DIE INSKEPPING VAN DIE NOORDELIKE UITBREIDING GEINTEGREERDE GEMENGDE INKOMSTE MENSELIKE NEDERSETTINGSONTWIKKELING.

Adres van eiendom: Gedeeltes van die plase 182 en 183 Stellenbosch, Noord van Kayamandi, Stellenbosch
Aansoeker: Zutari, verteenwoordig deur Rudolf Schröder: Rudolf.schroder@zutari.com
Eienaar: Stellenbosch Munisipaliteit, MPC Gebou, 1ste Vloer, h/v Dymeveld en Van Riebeeck straat, Stellenbosch
Aansoek Verwysing: LU/11853(TP302/2023)

Beskrywing van grondontwikkelingsaansoek:
a) Ingevolge Artikel 15(2)(d) van die Stellenbosch Munisipaliteit Verordening op Munisipale Grondgebruikbeplanning, 2023, vir die onderverdeling van die Restant van die Plaas 183 in twee gedeeltes.
b) Ingevolge Artikel 15(2)(o) van die Stellenbosch Munisipaliteit Verordening op Munisipale Grondgebruikbeplanning, 2023, vir die konsolidasie van Gedeelte 23 van die Plaas 183, Gedeelte 36 van die Plaas 183, Restant van die Plaas 182, Gedeelte van die Restant van die Plaas 183, Gedeelte 1 van die Plaas 182, Gedeelte 1 van die Plaas 183, Restant van Gedeelte 5 van die Plaas 183 in een gekonsolideerde eiendom
c) Ingevolge Artikel 15(2)(o) van die Stellenbosch Munisipaliteit Verordening op Munisipale Grondgebruikbeplanning, 2023, vir die Hersonering van die gekonsolideerde eiendom vanaf "Landbou en Landelike sone" na 'n "Onderverdelingsgebied" om voorsiening te maak vir die volgende gebruike:
- 1338 konvensionele residensiële sone erwe
- 1354 Minder Formeel Residensiel sone erwe
- 8 Multi-eenheid Residensiel sone erwe
- 25 Publieke Oopruimte Sone erwe
- 2 Vervoer Fasiliteite erwe
- 4 Gemengde Gebruikserf erwe
- 2 Onderwys sone erwe
- 2 Landbou en Landelike sone
- 3 Nutsone erwe
- 6 Gemeenskapsone erwe
- Publieke Pad en Parkering Sone

Soos uiteengesit op die voorgestelde onderverdelings plan.
d) Onderverdeling van die gekonsolideerde eiendom in ooreenstemming met die onderverdelingsplan ingevolge Artikel 15(2)(d) van die Stellenbosch Munisipale Verordening op Grondgebruikbeplanning 2023 ten einde uitvoering te gee aan bogenoemde voorgestelde erwe en sonering.
e) Goedkeuring vir die Fasering Plan

Hiermee word kennis gegee in terme van die genoemde Verordeninge dat bovermelde aansoek by die Stellenbosch Munisipaliteit ingedien is vir oorweging. Die aansoek is beskikbaar vir insae op die Beplannings Portaal van die Stellenbosch Munisipaliteit se Webtuiste vir die tydperk van die publieke deelname proses by die volgende adres: https://www.stellenbosch.gov.za/documents/planning-notices/land-use-applications-advertisements. Indien die webtuiste of dokumente nie toegangbaar is nie, kan die Aansoeker versoek word om 'n elektroniese kopie aangevra word.

Skriftelike kommentaar, wat besonderhede ten opsigte van die vereistes aanmer van die aansoek, die name, fisiese adres en kontak besonderhede van die persone wat die kommentaar lewer, die redes vir die kommentaar, en die belang van die persoon wat die kommentaar lewer in die aansoek, kan ingedien word in terme van Artikel 50 van genoemde Verordeninge aan die Aansoeker by wyse van elektroniese pos as volg: Zutari vir aandag Rudolf Schröder by rudolf.schroder@zutari.com. Deur 'n beswaar, kommentaar of vertoë in te dien, erken die persoon wat dit doen dat hierdie inligting aan die mede aan die aansoeker beskikbaar gestel kan word

Die kommentaar moet binne 30 dae vanaf die datum van hierdie kennisgewing gestuur word en moet ontvang word voor of op die laaste dag van die sluitings datum van (25 Februarie 2024). Daar moet kennis gegeven word dat die Munisipaliteit, ingevolge Artikel 50(5) van die genoemde Verordening, mag weier om enige kommentaar/beswaar wat na die sluitingsdatum ontvang word, te aanvaar.

Vir enige navrae op die aansoek of bovermelde vereistes of die lewer van kommentaar, of indien dit nie moontlik is om gemaak kommentaar te lewer of die kommentaar op die wyse te lewer soos voorsiening gemaak is nie, kan die Aansoeker gekontak word vir bystand by die vermelde elektroniese pos adres of telefonies by +27 44 805 5400/0833908963 gedurende normale kantoor ure

Figure 4: Public Notice as published in Eikestad Nuus 25 January 2024

The closing date for comments according to the notice was 25 February 2024, but was later extended to 5 March 2024 as the sites notices and some of the notification letters were only erected and sent on 5 February 2024.

6.2 Notices placed on Municipal Website

Notice of the proposed subdivision and rezoning of the Portions of Farms 182 and 183, Stellenbosch, was placed on the Municipal Website.

See the below screenshots taken of the notice:

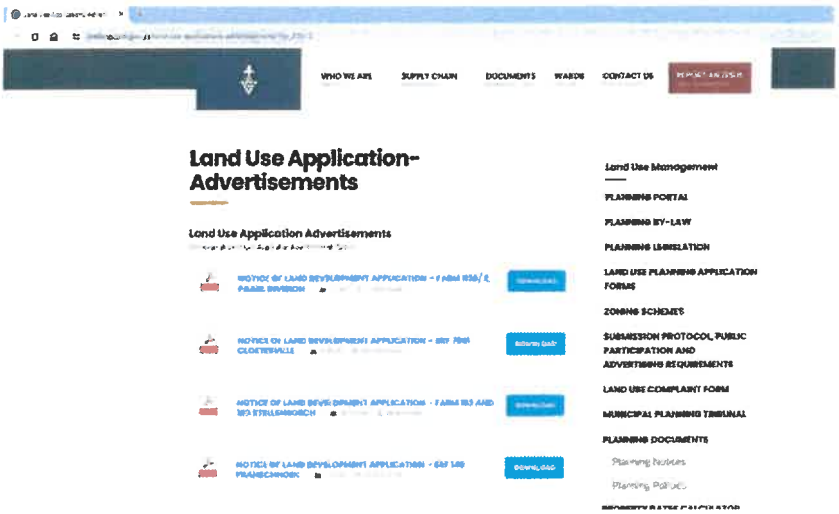


Figure 5: Screenshot to notice placed on municipal website.

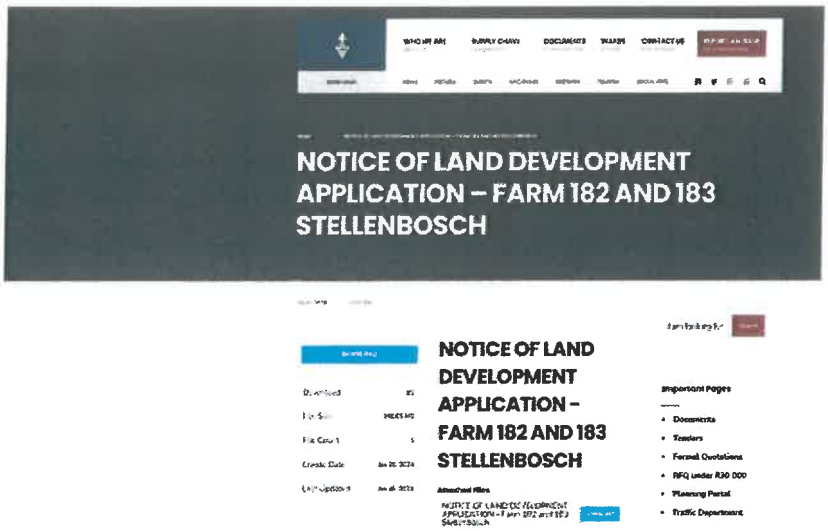


Figure 6: Screenshot of notice placed on municipal website.

6.3 Notice placed on property.

Notice of the proposed subdivision and rezoning of the Portions of Farms 182 and 183, Stellenbosch, was placed on the affected property on 5 February 2024 in the following locations:



Figure 7 - Site Notice Locations

See the below photos taken of the notice:

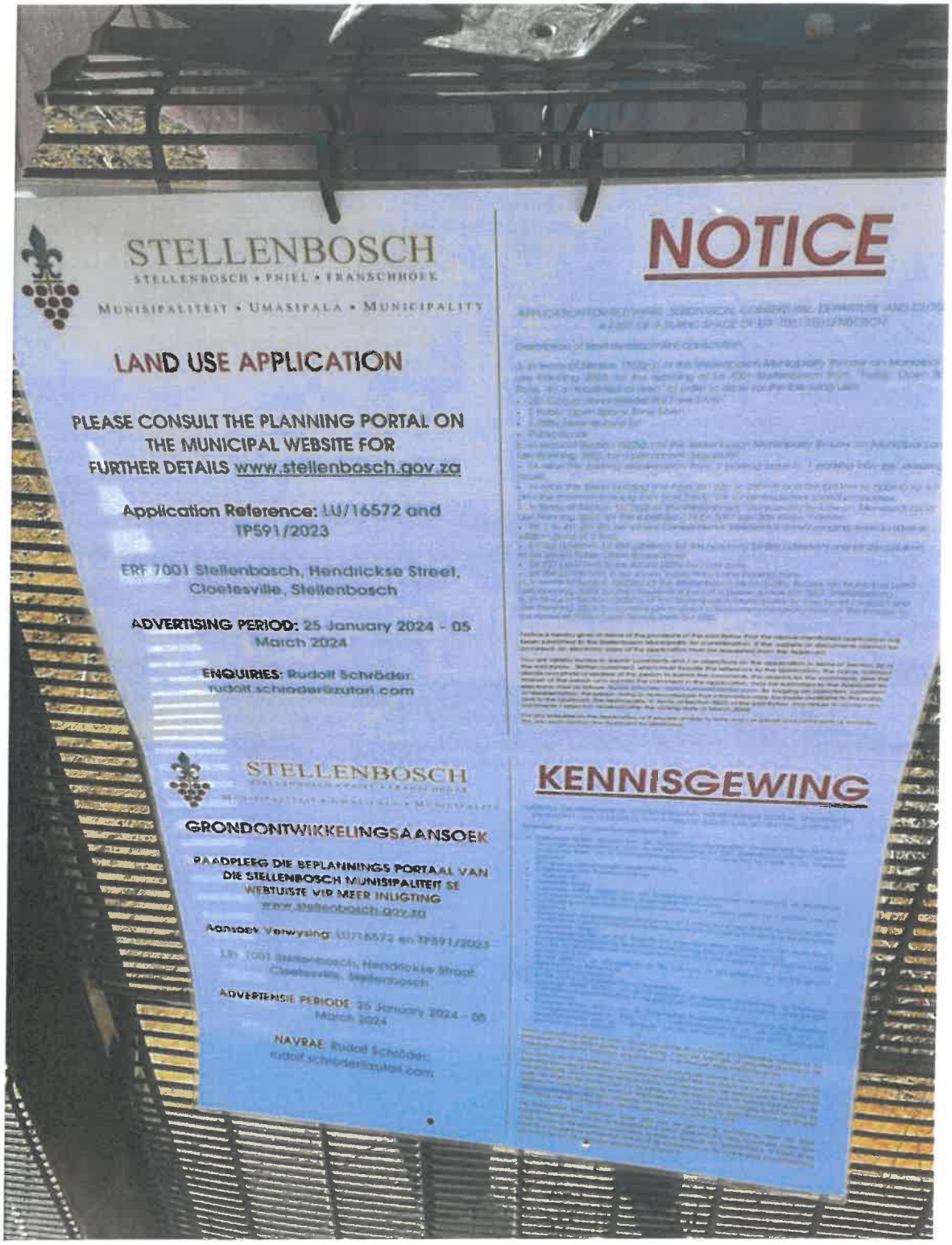


Figure 8: Notice placed on site.


NOTICE

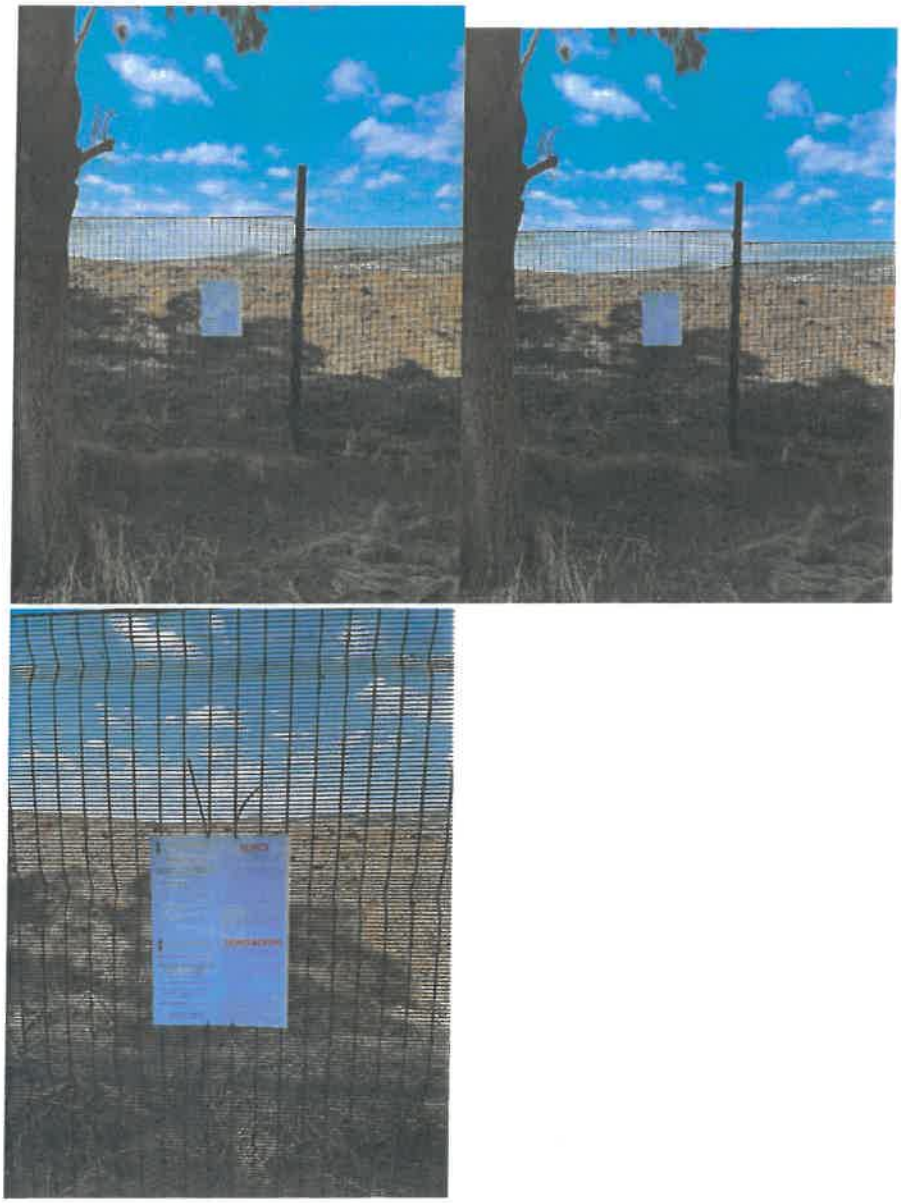


Figure 9: Notice placed on site.

6.4 Notice to affected property owners and community organisations.

The following property owners and community organisations were requested to provide comments:

1. Farm 183/37 – WS Smit Boerdery
2. Farm 81/33 – Similan / Newinbosch
3. Farm 72/2 – Du Bois Boerdery
4. Rem Farm 183/3 – AC Blake Family Trust
5. Farm 183/72 – Aaldering Vinyards
6. Farm 1514/1 – Moongate 144 Pty Ltd

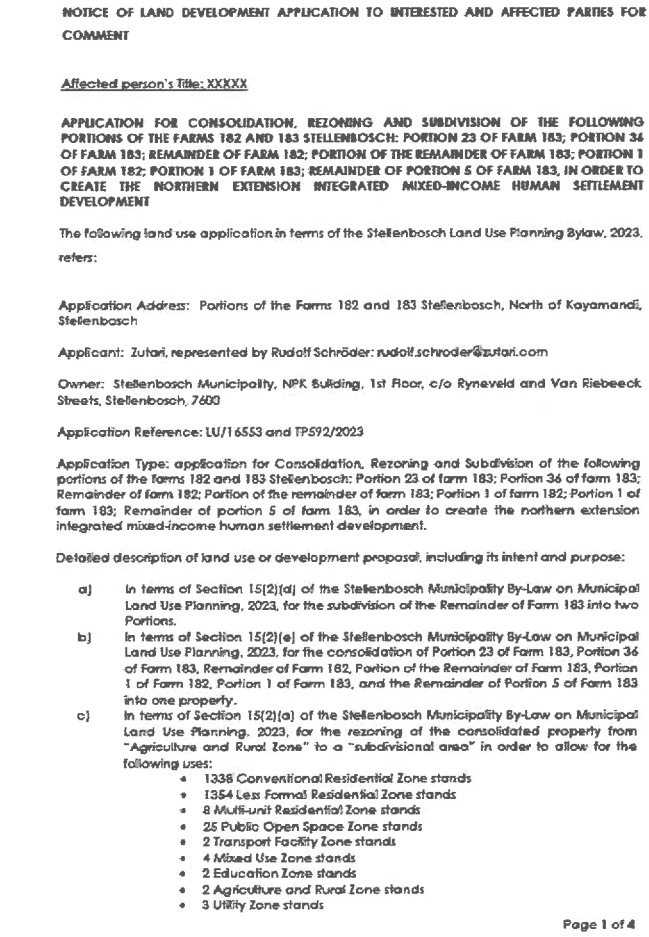


Figure 10: Map of affected neighbouring properties (as included in instruction to advertise letter)

The table below provides details regarding all the affected property owners and community organisations that were notified of the application:

Affected Property:	Method of Notification:
1. Farm 183/37 – WS Smit Boerdery	Registered Mail posted on 06/02/2024 – See waybill attached
	Affected interest group: WS Smit Boerdery EDMS BPK Posbus 2013, Dennesig, Stellenbosch, 7601 825683006
2. Farm 81/33 – Similan / Newinbosch	Numerous meetings and emails between the Municipality and the Newinbosch Developers. See email attached with comments received.
3. Farm 72/2 – Du Bois Boerdery	Registered Mail posted on 06/02/2024 – See waybill attached
	Affected interest group: DU Bois Boerdery DU, Bois Boerdery, Posbus 116, Koelenhof, Stellenbosch, 7605 825776991
4. Rem Farm 183/3 – AC Blake Family Trust	Registered Mail posted on 06/02/2024 Additional email sent on 24/10/2025 – See email correspondence attached
	Affected interest group: AC Blake Familie Trust Posbus 12143, Die Boord, Stellenbosch, 7613 828813209
5. Farm 183/72 – Aaldering Vinyards	Registered Mail posted on 06/02/2024 – See waybill attached
	Affected interest group: Aaldering Vineyards and wine (PTY) LTD PO BOX 1068, Stellenbosch, 7599 795268026
6. Farm 1514/1 – Moongate 144 Pty Ltd	Registered Mail posted on 06/02/2024 – See waybill attached
	Affected interest group: Moongate 144 PTY LTD Posbus 66, Stellenbosch, 7599 218832565

Table 1: List of affected property owners affected.



NOTICE OF LAND DEVELOPMENT APPLICATION TO INTERESTED AND AFFECTED PARTIES FOR COMMENT

Affected person's Title: XXXXX

APPLICATION FOR CONSOLIDATION, REZONING AND SUBDIVISION OF THE FOLLOWING PORTIONS OF THE FARMS 182 AND 183 STELLENBOSCH: PORTION 23 OF FARM 183; PORTION 36 OF FARM 183; REMAINDER OF FARM 182; PORTION OF THE REMAINDER OF FARM 183; PORTION 1 OF FARM 182; PORTION 1 OF FARM 183; REMAINDER OF PORTION 5 OF FARM 183, IN ORDER TO CREATE THE NORTHERN EXTENSION INTEGRATED MIXED-INCOME HUMAN SETTLEMENT DEVELOPMENT

The following land use application in terms of the Stellenbosch Land Use Planning Bylaw, 2023, refers:

Application Address: Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Applicant: Zutari, represented by Rudolf Schröder: rudolf.schroder@zutari.com

Owner: Stellenbosch Municipality, NPK Building, 1st Floor, c/o Ryneveld and Van Riebeeck Streets, Stellenbosch, 7600

Application Reference: LU/16553 and TPS92/2023

Application Type: application for Consolidation, Rezoning and Subdivision of the following portions of the farms 182 and 183 Stellenbosch: Portion 23 of farm 183; Portion 36 of farm 183; Remainder of farm 182; Portion of the remainder of farm 183; Portion 1 of farm 182; Portion 1 of farm 183; Remainder of portion 5 of farm 183, in order to create the northern extension integrated mixed-income human settlement development.

Detailed description of land use or development proposal, including its intent and purpose:

a) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the subdivision of the Remainder of Farm 183 into two Portions.

b) In terms of Section 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

c) In terms of Section 15(2)(a) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the rezoning of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands

Page 1 of 4

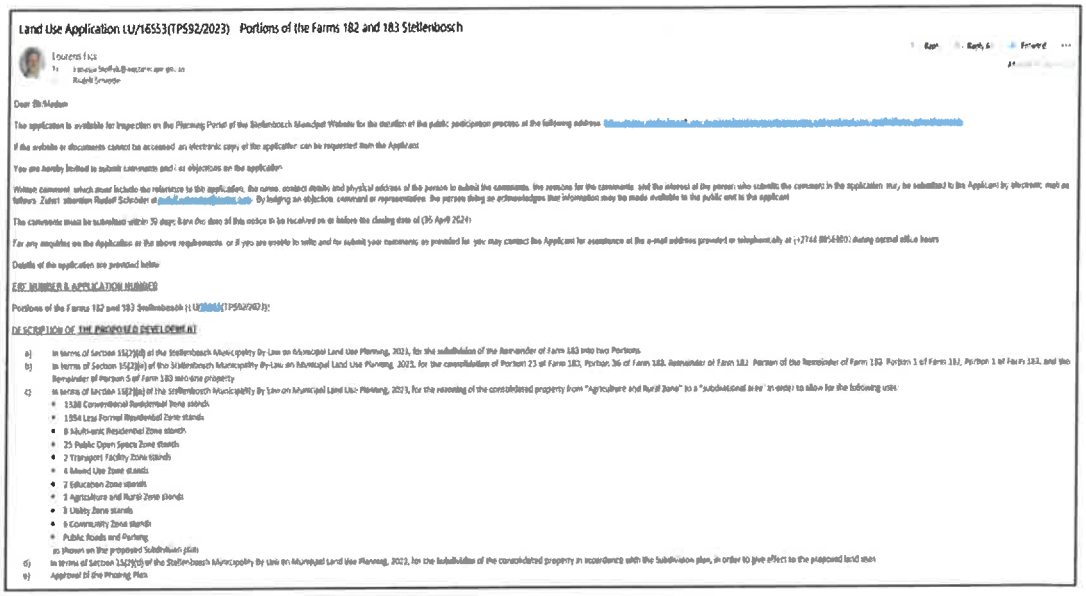
Figure 11 - Example of letter sent to surrounding property owners

6.5 Comments from External Departments and Interested and Affected Parties

Comments from external departments and interested and affected parties have been requested via email.

6.5.1 Request for comments:

An example of the email that was sent is provided below as well as a delivery report schedule demonstrating proof that emails were sent to the various external departments. Detailed comments and responses are contained in this report to provide the Municipality with details of the comments received and the applicant's response thereto.



Land Use Application LU/16553(TPS92/2023) Portions of the Farms 182 and 183 Stellenbosch

Dear Sir/Madam

The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address

If the website or documents cannot be accessed an electronic copy of the application can be requested from the Applicant

You are hereby invited to submit comments and / or objections on the application

Written comment which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments and the interest of the person who submits the comment in the application may be submitted to the Applicant by electronic mail as follows: Zuhri attention Rudolf Schröder at

By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant

The comments must be submitted within 30 days from the date of this notice in be received on or before the closing date of (30 April 2024)

For any enquiries on the application or the above requirements or if you are unable to write and to submit your comments as provided for you may contact the Applicant for assistance at the e-mail address provided or telephonically at (+2744 8856800) during normal office hours

Details of the application are provided below

ERF NUMBER & APPLICATION NUMBER

Portions of the Farms 182 and 183 Stellenbosch (LU/16553(TPS92/2023)):

DESCRIPTION OF THE PROPOSED DEVELOPMENT

a) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the subdivision of the Remainder of Farm 183 into two Portions.

b) In terms of Section 15(2)(e) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property

c) In terms of Section 15(2)(a) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the rezoning of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 1 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan

d) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the subdivision of the consolidated property in accordance with the subdivision plan, in order to give effect to the proposed land uses

e) Approval of the Phasing Plan

Figure 12: Example of email sent requesting comments from external departments.

6.5.2 External Departments:

The schedule below provides details regarding all the external departments that were requested to provide comments:

EXTERNAL DEPARTMENT	CONTACT DETAILS	E-MAIL	COMMENTS REQUESTED
Stellenbosch Wine Routes	– Elmarie - elmarie@wineroute.co.za	elmarie@wineroute.co.za	Email sent on 04 March 2024 – 11:55 AM
Stellenbosch ratepayers' association	info@stellenboschratepayers.org	info@stellenboschratepayers.org Secretary@stellenboschratepayers.org	Email sent on 04 March 2024 – 11:55 AM
Stellenbosch Interest Group	info@stellenboschinterestgroup.org	info@stellenboschinterestgroup.org	Email sent on 04 March 2024 – 11:55 AM
Stellenbosch Agricultural Society	stlandbo@mweb.co.za infostlandbo@mweb.co.za	stlandbo@mweb.co.za	Email sent on 04 March 2024 – 11:55 AM
Dept. of Transport and Public Works	Vanessa Stoffels Vanessa.stoffels@westernape.gov.za	Vanessa.stoffels@westernape.gov.za	Email sent on 04 March 2024 – 11:55 AM

Table 2: List of external departments requested for comments.

6.6 Compliance with Public Participation Requirements

In accordance with the requirements of the Land Use Planning Bylaw for Stellenbosch Municipality, 2015, the applicant herby furnishes the Planning department with the following documents as proof that the public participation requirements have been met:

- Copies of the notice placed in the local newspaper (Eikestad News);

- Proof that the notice was sent to Stellenbosch Municipality and that it was placed on the Municipal website (copy of email sent and screen shot of notice on website);
- Proof that the surrounding property owners were notified of the application.
- Proof of the notices sent to the external departments and interested and affected parties.

7 Comments Received From Public

A number of comments were received from the general public.

- 2 response / comments were received from members of the public in response to the application notice.
- 2 requests for a meeting;

All comments received were grouped into categories of concerns or key issues to be addressed, as many of the comments received relate to the same aspect or key issue. Each area of concern is grouped into a main category, each with a number of sub-categories related to that main category.

Refer to Annexure B - Comments Received from the Public as well as referral to sections in Public Participation Report where the comment has been addressed.

7.1 Categories of comments received from the public.

The below section provides an overview of the key issues raised from the comments received. Please find attached all comments received from the public as Annexure A.

The key issues raised during the public participation process have been categorised in the following **two main categories**, each with its own **sub-category**:

	MAIN CATEGORY	SUB-CATEGORY
1.	Engineering services and built environment	▪ Road access and linkages
2.	Institutional processes	▪ Proposed changes to zoning ▪ Proposed land uses

Table 3: Main and subcategory of comments received.

The below section provides an overview of the key issues raised from the comments received, grouped per main category and sub-category as described in the above table.

Engineering services and built environment.

7.1.1 MAIN CATEGORY: Engineering services and built environment.

SUB-CATEGORY: Road access and linkages

Suggestions have been made to have one or more vehicle and pedestrian links to Kayamandi from the proposed development. Concerns have also been raised regarding the capacity of the Newinbosch access road to be used as a primary access road into the development, and that the thorough routes proposed in the report may be inadequate.

Comment was made that

"no mention is made in the report on the western bypass that is envisaged to divert traffic around Stellenbosch. This bypass passes west of the Northern Kayamandi development and should be planned as the main entrance into Kayamandi and the northern development".

Response to comments

It is noted that residents of Kayamandi rely heavily on NMT and PT modes. It was therefore viewed as essential that the internal roads of the development cater for these modes. The internal roads of the proposed development will have road reserves ranging from 8m wide residential streets to a 16m wide "primary boulevard". A recommendation has also been made to provide NMT facilities along the external network, and also that the NMT network be extended along the Link Road to tie into the internal roads and the NMT facilities provided as part of the Development. A major connecting road through the development and several pedestrian links have been provided for in the layout plan, and provision was also made for roads that could be extended into Kayamandi in the future.

Initially access to the Northern Extension development will be via the Newinbosch Access road and the existing accesses into Kayamandi off the R44. Once 50% of Northern Extension has been developed a new access off the R44 will be required. Thus, the Newinbosch Access will not have to accommodate the total number of trips generated by the Kayamandi Northern Extension.

The implementation of the Western Bypass is still under careful consideration by the Stellenbosch Municipality. Proposing an access to the Western Bypass is not possible since a decision with regards to its alignment and the implementation timeframe is still unknown.

SUB-CATEGORY: Proposed land uses

Comments have been received noting the requirement for public parking, commercial spaces and space for churches.

Response to comments

The main focus of the proposed development is to provide residential opportunities, with access to all types of appropriate community facilities required to serve the community. The proposed urban design framework of the Northern Extension Integrated Mixed-Income Human Settlement Development consists of a number of land uses including;

- **2 Transport facility Zone stands**: One of the primary uses of the Transport facility zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "public parking area", which allows for public parking to be developed if required.

Off street parking for private vehicles will be provided on site where applicable. The number of off-street parking bays will be provided in accordance with the Stellenbosch Municipality Zoning Scheme Bylaws. The Zoning Scheme recommends the number of off-street parking bays to be provided per land use type.

The two proposed public transport interchange facilities planned for the Kayamandi Northern Extension are approximately 5587 sqm and 5397 sqm respectively. Off-street parking/holding areas will be provided for taxis on the site itself, based on the number of valid/approved permit-holding vehicles that may operate in the area (for example, 1 bay per 3 permit-holding vehicle). PTI facilities will also have dedicated bays for pick up and drop off passengers, since the purpose is to act as a Public Transport interchange allowing transfer between different modes of transport.

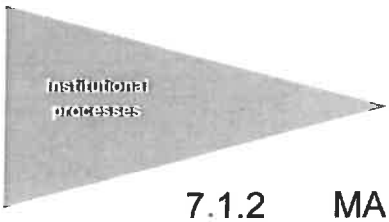
Depending on the Public Transport routes defined for the Northern Extension and where pick up and drop off points are likely to be, public transport embayment's may be provided where necessary.

- **4 Mixed-use Zone stands:** One of the primary uses of the mixed use zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "Business premises (including shops, markets, restaurants, office)", which allows for commercial use if required.

Sufficient spaces have been provided for retail facilities in the current layout plan. All commercial and retail services have been accommodated in the mixed use precinct.

- **6 Community Zone stands:** One of the primary uses of the community zone, as indicated by the Stellenbosch Municipality zoning Scheme by-law 2019, is "place of worship", which allows for the erection of church facilities if required.

The number and type of public facilities and amenities (including public open space and religious facilities) were determined by applying the Individual Social Facility Provision Guidelines (Access, Thresholds, and Site Sizes) outlined in the 'CSRI Guidelines for the Provision of Social Facilities in South African Settlements (2015)'. These guidelines provide direction on the quantity, type, and plot size of public facilities based on the projected population of the new development. For the Northern Extension, the estimated population size was calculated by multiplying the estimated number of dwellings by the average household size for Stellenbosch. There are 5 religious facilities required for the proposed population and these have been accommodated within the development framework.



7.1.2 MAIN CATEGORY: Institutional processes

SUB-CATEGORY: Proposed changes to zoning

Comments and proposals have been received regarding the zoning of specific erven including;

- Erf 2737 in the proposed layout, zoned for education use, should be zoned for community facilities and that Erf 2733 should be zoned for education.
- Exchange the respective zoning of Erf 2736 (education) and Erf 2734 (mixed use) to create a significant education hub.

- A proposal to designate all land intended for community type facilities – including educational and training – to be zoned as "community zone" to enable development processes.

Response to comments

The proposed subdivision and layout plan is informed by the urban design framework that has been through a major process with inputs from various specialists and workshops with the municipality to craft the current development vision. The proposed urban design for the Northern extension development makes provision for 6 community zone stands and 2 education zone stands, each respective zoning categories' list of consent uses enable the appropriate and required development processes as envisioned.

The proposed zoning changes will be carefully considered by the technical team and the Municipality to ensure that any changes made will still fit in with the overall character and the development vision of the urban Design framework. The technical team will also assess whether the application will need to be readvertised if some of the proposed changes are implemented.

7.1.3 Comments received from Newinbosch Development

A number of engagements were held with the developers of the Newinbosch Development during the planning of the project.

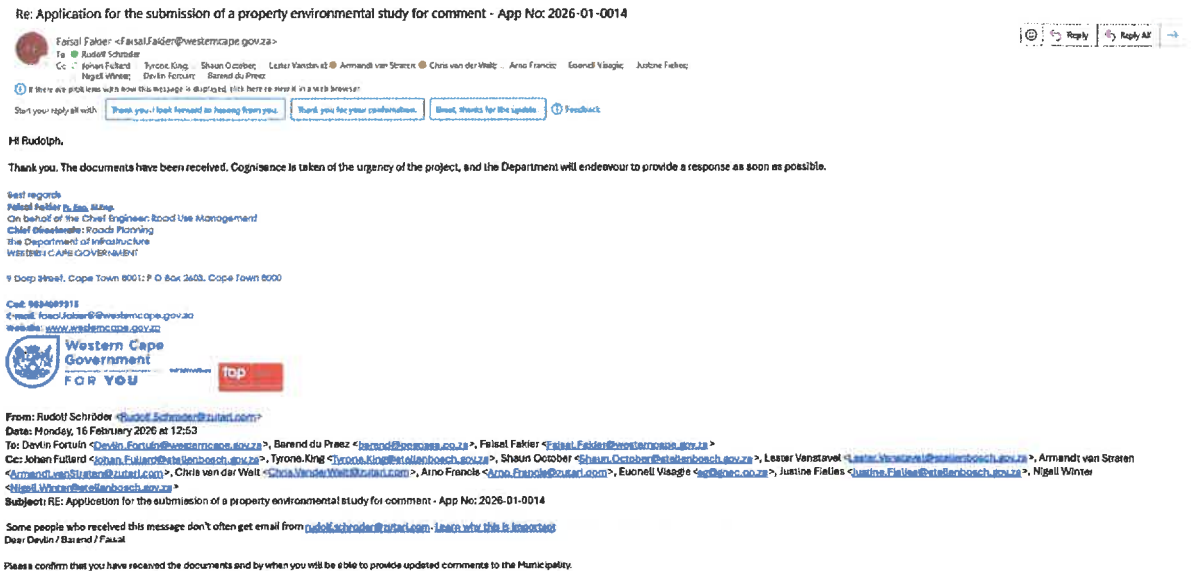
The below table provide a record of the engagements:

Meeting with Francois Nortje (Osmond Lange Architects) regarding Newinbosch Development	**17 June 2021**	Meeting with Francois Nortje (Osmond Lange Architects), Avril Paterson (Osmond Lange Architects), Harold Spies (Similan), Pieter Du Toit (Similan), Chris vd Walt (Zutari) & Elzaan Jordaan (Zutari).
Meeting with Similan to discuss Newinbosch Development & Northern Extension integration	**6 October 2021**	Meeting with Pieter Du Toit (Similan), Avril Paterson (Osmond Lange Architects) Brogan Bradfield (Zutari), Marile van Eeden (Zutari), & Chris vd Walt (Zutari). Plans & drawings exchanged at the time.
Meeting with Similan regarding Newinbosch Development	**14 January 2025**	Meeting with Harold Spies (Similan), Pieter Du Toit (Similan) & Rudolf Schröder (Zutari). Details of layout plan shared with the Newinbosch team.
Latest Layout Plan sent to the Newinbosch Development Team	**23 January 2025**	Email sent to: Harold Spies <harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Chris van der Walt <Chris.VanderWalt@zutari.com>
Meeting between the Municipality and Similan to discuss Newinbosch	**20 August 2025**	<harold@similan.co.za>; Pieter du Toit <pieter@similan.co.za>; Shaun October <Shaun.October@stellenbosch.gov.za>;

Development & Northern Extension integration		Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>;
Comments from Newinbosch	**29 August 2025 – 14 October 2025**	All comments addressed and incorporated into layout plan – see confirmation emails attached.

7.2 Comments received from External Departments

The proposed subdivision and rezoning of Farms 182 and 183 Stellenbosch was submitted to external departments for commentary, the list of the external departments is noted in section 5.5.2 above. A number of engagements and meetings were held with the Provincial Roads Department and a few amendments and adjustments to the development plan have been actioned in response to the comments received. Ongoing engagements are taking place between the Municipality and the Provincial Roads Department regarding the roads master planning and conditions of approval that must be incorporated.



Re: Application for the submission of a property environmental study for comment - App No: 2026-01-0014

Faisal Fakier <Faisal.Fakier@westerncape.gov.za>

Hi Rudolph,

Thank you. The documents have been received. Cognisance is taken of the urgency of the project, and the Department will endeavour to provide a response as soon as possible.

Western Cape Government

From: Rudolf Schröder <Rudolf.Schroder@zutari.com>
Date: Monday, 16 February 2026 at 12:53
To: Devlin Fortuin <Devlin.Fortuin@westerncape.gov.za>, Barend du Preez <barend@spacepa.co.za>, Faisal Fakier <Faisal.Fakier@westerncape.gov.za>
Cc: Johan Fullard <Johan.Fullard@stellenbosch.gov.za>, Tyrone.King <Tyrone.King@stellenbosch.gov.za>, Shaun October <Shaun.October@stellenbosch.gov.za>, Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Armandt van Straten <Armandt.vanStraten@zutari.com>, Chris van der Walt <Chris.VanderWalt@zutari.com>, Arno Francis <Arno.Francis@zutari.com>, Euonell Visagie <ed@snec.co.za>, Justine Fieties <Justine.Fieties@stellenbosch.gov.za>, Nigell Winter <Nigell.Winter@stellenbosch.gov.za>
Subject: RE: Application for the submission of a property environmental study for comment - App No: 2026-01-0014

Some people who received this message don't often get email from rudolf.schroder@zutari.com. Learn why this is important

Dear Devlin / Barend / Faisal

Please confirm that you have received the documents and by when you will be able to provide updated comments to the Municipality.

Figure 13: Provincial Roads engagements - ongoing

7.3 Comments received from Internal Departments

Prior to the submission of the application and after the submission, numerous workshops and meetings were held with the municipality's infrastructure services departments.

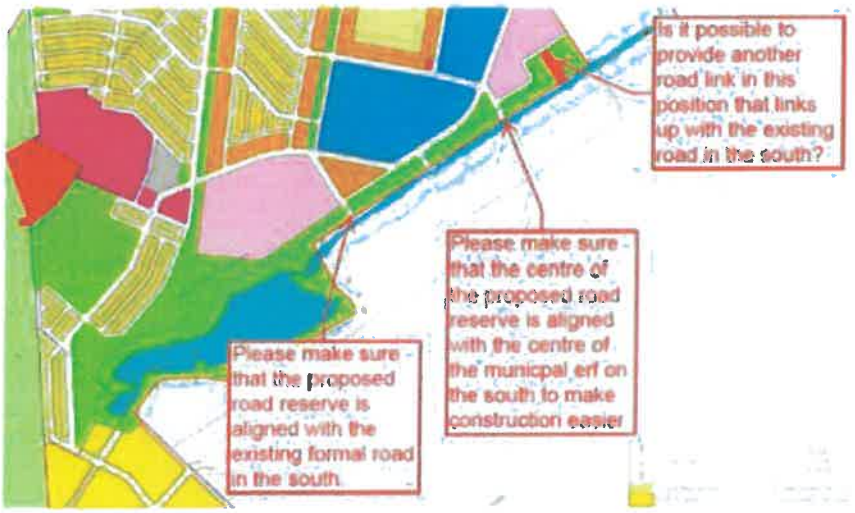
From: Tyrone King
Sent: Thursday, 14 November 2024 16:21
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Myra Francis <Myra.Francis@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Johan Fullard <Johan.Fullard@stellenbosch.gov.za>; Paul Joubert <Paul.Joubert@stellenbosch.gov.za>; Rudolf Schröder <Rudolf.Schroder@zutari.com>; Chris Van Der Walt <Chris.VanderWalt@zutari.com>; Shane Chandaka <Shane.Chandaka@stellenbosch.gov.za>
Subject: FW: Adam Tas Precinct 10 Northern Extension: Amended Layout and Signed memo

Hi Shaun, thanks for the revised layout, it looks like things are moving forward.

I have had a chat with Rudolph today and he informed me that they are again revising the subdivision layout to only indicate the "superblocks". The internal layouts will then be finalised at a later stage.

But in the meantime, I can provide the following inputs on the layout received, I think it will help when they prepare the new subdivision plan. I have consulted with Paul and Johan and my comments are as follows:

1. I assume that the dashed red line is the 15m pressure contour? Please label as such.
2. Indicate the position of the bulk water pipeline to/from the reservoir. We need to be sure that it is located within the new road reserves and not across any private erven.
3. Indicate all the road reserve widths – Johan Fullard needs this information before he can give further comment and/or approve the roads layout.
4. See notes below on road links to the existing Kayamandi.



5. As discussed with Rudolf 14 Nov 2024 – the orientation of most of the roads are parallel with the contours. This means that there will be substantial retaining walls between the rows of erven. This layout would also require midblock services which are not ideal. Is there a particular reason why this erf orientation was decided on? Does it not make more economical sense to swing the erven 90 degrees with the roads perpendicular to the contours - that would avoid the retaining structures and lead to massive cost savings? I have tried my best to illustrate my point below. Zutari to please investigate and advise.



Regards



Figure 14 - Comments on Layout from Infrastructure Services – 14 November 2024

These comments were addressed in the amended layout plan that was submitted on 10 December 2024.

Following the submission of 10 December 2024, some further revisions were required regarding the proposed future access road over the apex school property adjacent to the site of application. Some notes were also required along the 15 metre water pressure contour around the reservoir:



Figure 15 - Comments on Layout from Infrastructure Services - 16 April 2025

These final comments were addressed in the revised layout plan that was submitted on 18 April 2025. Infrastructure Services confirmed that they are happy with the changes in an email sent on 16 April 2025:



Figure 16 – Confirmation from Infrastructure Services that comments have been addressed - 16 April 2025

8 Conclusion

The objective of this Public Participation Report is to outline the public participation and Stakeholder engagement process that was followed, following the submission of the application for the Rezoning and Subdivision of the Portions of Farms 182 and 183, Stellenbosch.

The public participation process followed was in strict compliance with the specifications of the Land Use Planning Bylaw for Stellenbosch Municipality, 2015.

This Public Participation report details the outcomes of the public participation process with all comments received, responses to comments as well as all correspondence to and from external departments. It is believed that any concerns raised by the public and stakeholders have been considered and have sufficiently been addressed. No comments have been received that warrants the proposed development to not proceed or requires any amendments to the layout plan or proposed land uses, unless the municipality would like to make changes as per the proposal received.

Annexure title

Annexure A - Northern Extension response to comments matrix

Annexure B - Comments Received from the Public

Annexure C – Final Amended Layout Plan submitted 10 December 2025

In diversity there is beauty and there is strength.

MAYA ANGELOU

Document Prepared by:

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ZUTARI
IMPACT. ENGINEERED.

Rudolf Schröder

From: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>
Sent: Tuesday, 14 October 2025 08:55
To: Rudolf Schröder
Cc: Chris van der Walt; Elzaan Jordaan; Shaun October
Subject: RE: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

Hi Rudolf,

Met verwysing na jou onderstaande epos, het ek vir Harold dienooreenkomstig vanoggend ingelig dat ons nou tot 'n einde gekom het van instette en veranderinge rakende die uitleg plan. Ek het aan hom presies verduidelik soos jou uiteensetting hieronder, dalk nie met soveel detail nie maar die konsep is dieselfde. Die Munisipale Bestuurder het weereens gister navraag gedoen oor hierdie projek en dit was aan haar meegedeel dat die BAR by Vrydag, 17 Oktober 2025 by die munisipaliteit sowel as by DEADP ingedien word.

Vriendelike groete,
Lester van Stavel
Bestuurder: Behuisingsontwikkeling
Geïntegreerde Menslike Nedersettings
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STELLENBOSCH

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From: Rudolf Schröder <Rudolf.Schroder@zutari.com>
Sent: Tuesday, 14 October 2025 08:35
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Chris van der Walt <Chris.VanderWalt@zutari.com>; Elzaan Jordaan <Elzaan.Jordaan@zutari.com>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>
Subject: [EX] RE: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

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Hi Shaun

Die voorstelle wat Harold in die epos maak hier onder is reeds in die uitleg plan vervat.

Daar word aansoek gedoen vir superblokke met 'n mandjie van regte in elke blok.

Portion 24 maak voorsiening vir less formal residential stands asook multi unit residential stands (apartments/woonstelle). Die presiese posisie van waar die erwe binne daardie blok sal wees sal eers deur die detailed onderverdelings plaasvind.

Ons doel is dus nie om die blokke verder te verdeel op die huidige stadium nie, want ons het spesifiek op versoek van die munisipaliteit weg beweeg vanaf die detailed onderverdelings plan en doen eerder aansoek vir die superblokke en fasering wat dan in detail per fase verder beplan sal word.

Portions 23 & 34 maak reeds voorsieniing vir less formal residential asook conventional residential erwe. So die ry FLISP erwe wat voorgestel word kan reeds geakkommodeer word op die conventional residential erwe. Die detailed onderverdeling wat as 'n volgende proses geloods sal word per fase sal spesifiseer waar presies in daardie blok die gedienste erwe en waar die FLISP en BNG erwe sal wees.

Op portions 21 en 20 doen ons aansoek vir mixed use zone wat kommersiele ontwikkeling asook woonstelle kan akkommodeer.

Die volgende grond gebruike kan alles op "Mixed Use" zoned erwe ge-akkommodeer word: Commune; Business premises (including shops, markets, restaurants, office); Clinic; Community residential building; Extramural facility; Flats; Guest house; Hostel; Hotel; Occasional use (one event/year); Plant nursery; Public institution; Public parking area; Private road; Tourist dwelling unit; Tourist accommodation establishment; Welfare institution.

Die presiese gebruik is dus nog nie vasgestel nie. Die "development rules" van die mixed use erwe sal wees in terme van die munisipaliteit se zoning scheme bylaw, wat hoogte, dekking, boulyne ens stipuleer. Daar word dus nie aansoek gedoen vir 'n spesifieke digtheid nie, want die hoeveelheid residentiele eenhede wat op daardie erwe ontwikkel sal word sal eers bepaal word wanneer die detailed beplanning en SDPs vir daardie erwe gedoen sal word.

Ek sien dus nie dat ons enige iets op die uitleg hoef te verander nie?

Groete,

Rudolf Schröder *Pr. Pln, M.PMSA, MTRP*
ASSOCIATE SPECIALIST | ZUTARI

M +27833906963 **E** Rudolf.Schroder@zutari.com **W** zutari.com

DISCLAIMER

From: Harold Spies <harold@similan.co.za>
Sent: Friday, 10 October 2025 11:11
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>; Pieter du Toit <pieter@similan.co.za>; Rudolf Schröder <Rudolf.Schroder@zutari.com>; Chris van der Walt <Chris.VanderWalt@zutari.com>; Barend Badenhorst <Barend.B@raubex.com>
Subject: Re: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

Hi Shaun,

Baie dankie vir jou epos en jou terugvoer. Ons is baie gemakliker met die huidige uitleg en die beskrywings van die erwe aangrensend tot Newinbosch. Dankie vir julle oorweging itv ons versoek in die verband. Ons het wel nog twee laaste voorstelle voor ons ons instemming gee tot die uitleg.

Twee verdere kommentare:

1. Porsies 24, en 23 en 35:
    a. Julle moet altyd dink aan bank waardasies (gaan 'n bank 'n eenheid finansier vr X bedrag or enigszins), maar belangriker, die mark opinie van 'n produk. Gaan 'n ontwikkelaar die eenhede kan verkoop as daar "less formal", dus informele huise regoorkant die pad is van die voorgestelde produk (woonstel of huis). Die antwoord hier is heelwaarskynlik nee. Ons kan almal saam gesels oor tenure neutrality, maar die mark is nooit verkeerd nie. As die mark nie daardie eenheid wil koop omdat hulle bang is vir waarde vermindering of veiligheid nie, gaan enige ontwikkelaar sukkel om dit te doen.
    b. My voostel sal hier wees om Porsie 24 op te deel in twee dele. Die deel regoorkant die pad van die portie 29 moet eerder SHRA woonstelle wees. Omdat dit 'n sekere standaard het, maar wel aan indingent kliente gaan, behoort dit nie die kopers in 'n conventionele ontwikkeling af te skrik nie.
    c. Met horsies 23 en 34, sal ek 'n strip FLISP huise regoorkant die "Conventional Res. Zone" insluit.
    d. In so mate verstap jy die typologies en pryspunte van die eenhede en maak jy dit meer palatable vir privaat ontwikkelaars en dus die toekomstige kopers.
2. Digthede:

    a. My voorstel is dat julle ook min en max, of dan tenminste gewenste digthede koppel aan elke porsie op die plan. Ek neem aan dit gaan in die aansoek hanteer word, maar dit maak dit vir ons makliker om te sien wat die intensie is met elke porsie. Maw, hoeveel eenhede gaan op ons voorstoep wees.

Groete en geniet die naweek.

Harold Spies
CEO / Founder
021 883 2433 | 082 520 2732
9 Hamman Street, Stellenbosch, 7600
www.similan.co.za



From: Shaun October <Shaun.October@stellenbosch.gov.za>
Date: Wednesday, 08 October 2025 at 11:08
To: Harold Spies <harold@similan.co.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>, Pieter du Toit <pieter@similan.co.za>, rudolf.schroder@zutari.com <rudolf.schroder@zutari.com>, Chris van der Walt <chris.vanderwalt@zutari.com>
Subject: RE: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

Hi Harold

Ek vertrou dit gaan goed met jou.

Sien aangeheg die gewysigde uitleg soos bespreek. Ons is gemaklik met die wysigings wat aangebring is, asook die insette en kommentaar wat julle aan ons voorsien het.

Indien julle dalk net vir ons kan aandui of julle dus gemaklik is met die aangehegte plan, kan ons dit nou deur ons finale beplannings proses neem vir besluitneming.

Ek hoor graag van jou.

Vriendelike groete,
Shaun October
Program Bestuurder:
Behuisingsontwikkeling
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From: Harold Spies <harold@similan.co.za>
Sent: Thursday, 25 September 2025 10:20
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>; Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>; Pieter du Toit <pieter@similan.co.za>; rudolf.schroder@zutari.com; Chris van der Walt <chris.vanderwalt@zutari.com>
Subject: [EX] Re: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

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Dankie Shaun,

Dit is goeie nuus en vordering. Laat weet gerus as ons met enige iets anders kan help.

Groete,
Harold

From: Shaun October <Shaun.October@stellenbosch.gov.za>
Date: Thursday, 25 September 2025 at 09:27
To: Harold Spies <harold@similan.co.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>, Pieter du Toit <pieter@similan.co.za>, rudolf.schroder@zutari.com <rudolf.schroder@zutari.com>, Chris van der Walt <chris.vanderwalt@zutari.com>
Subject: RE: Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?
Hi Harold

Hoop dit gaan goed.

Jammer dat ons nou eers terrugkom, maar ons het intussen met ons konsultante die veranderinge en die voorstelle/ insette op die uitleg en enige implikasies daarvan ge-workshop en ons voel positief dat ons dit kan maak werk. Ons het opdrag gegee vir Zutari om die verandering aan te bring wat ons aan julle ook sal voorlê vir kommentaar sodat ons die aansoek nou finaal kan finaliseer.

Ek stuur dit sodra ek dit ontvang vanaf die konsultante.

Vriendelike groete,
Shaun October
Program Bestuurder:
Behuisingsontwikkeling
Geïntegreerde Menslike Nedersettings
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From: Harold Spies <harold@similan.co.za>
Sent: Tuesday, 23 September 2025 17:53
To: Shaun October <Shaun.October@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>
Cc: Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>; Pieter du Toit <pieter@similan.co.za>; rudolf.schroder@zutari.com; Chris van der Walt <chris.vanderwalt@zutari.com>; Yolande van den Berg <Yolande.vandenBerg@stellenbosch.gov.za>
Subject: [EX] Zoning Plan: Northern Extension ATC Precinct 10 - Is daar al terugvoer?

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Beste Shaun,

Ek volg net weer op op die epos hieronder. Enige verdere vordering? Ons hou tans nog terug op ons prokureursbrief na jou uitnooi vir 'n gesprek oor wat vir Newinbosch kan werk. Ons het dit as 'n baie positiewe gebaar en stap ervaar en sal waardeer as ons nie nou momentum verloor nie.

Ek sal dit waardeer as julle spoedig na ons toe kan terugkom.

Groete en dankie,

Harold

From: Harold Spies <harold@similan.co.za>
Date: Wednesday, 03 September 2025 at 10:51
To: Shaun October <Shaun.October@stellenbosch.gov.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>, Pieter du Toit <pieter@similan.co.za>, rudolf.schroder@zutari.com <rudolf.schroder@zutari.com>, Chris van der Walt <chris.vanderwalt@zutari.com>
Subject: Re: Zoning Plan: Northern Extension ATC Precinct 10

Hi Shaun,

Groot plesier. Ons wil graag 'n bydra lewer om 'n konstruktiewe oplossing en 'n werkbare model te help ontwikkel. Daar is een geleentheid om dit reg te doen.

Laat weet gerus as julle verder vir gesels.

Sterkte vir die week.

Groete,
Harold

From: Shaun October <Shaun.October@stellenbosch.gov.za>
Date: Wednesday, 03 September 2025 at 08:42
To: Harold Spies <harold@similan.co.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>, Pieter du Toit <pieter@similan.co.za>, rudolf.schroder@zutari.com <rudolf.schroder@zutari.com>, Chris van der Walt <chris.vanderwalt@zutari.com>
Subject: RE: Zoning Plan: Northern Extension ATC Precinct 10

Hi Harold en Pieter

Dit gaan goed dankie ek hoop dieselfde met julle. Jammer dat ons nou eers terrugkom maar dit bietjie rof gegaan die afgelope paar dae.

Eertens baie dankie vir julle insette, kommentaar en voorstelle rakende die voorgestelde Northern Extension behuisings ontwikkeling.

Ek sal die inhoud hier onder bietjie bespreek met Lester sowel as met ons konsultante en ook kyk hoe ver ons hierdie voorstelle en idees kan inkorporeer in die uitleg.

Ons kom so gou moontlik terrug na julle sodra ons dit bespreek het.

Vriendelike groete,
Shaun October
Program Bestuurder:
Behuisingsontwikkeling

Geïntegreerde Menslike Nedersettings
Stellenbosch Munisipaliteit

T: +27 21 808 8756
NPK Gebou, 2de Vloer, h/v
Ryneveld – en Van Riebeeckstraat,
Stellenbosch, 7600
www.stellenbosch.gov.za

About Stellenbosch Municipality
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From: Harold Spies <harold@similan.co.za>
Sent: Monday, 01 September 2025 17:09
To: Shaun October <Shaun.October@stellenbosch.gov.za>; Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>
Cc: Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>; Yolande van den Berg <Yolande.vandenBerg@stellenbosch.gov.za>; Pieter du Toit <pieter@similan.co.za>; rudolf.schroder@zutari.com
Subject: [EX] Re: Zoning Plan: Northern Extension ATC Precinct 10

CAUTION: This email originated from outside the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Shaun en Lester,

Ek hoop julle naweek was goed.

Sien aangeheg 'n handskets vir verwysing, en hiermee my kommentaar:

1. Ek lewer my kommentaar uit die vertrekpunt van iemand met twee hoede op: 1) as ontwikkelaar wat die waarde van Newinbosch se eiendomme skaamteloos beskerm, en 2) 'n koper/ ontwikkelaar van een van die erwe in die Watergang ontwikkeling (Hoe sou ek die erwe ontwikkel?)
2. Ek sou aanvaar julle, Stellenbosch Munisipaliteit jaag die hoogste hoeveelheid, dus hoe digthede na om soveel moontlik behuisingseenhede in die mark te faciliteer. Die meeste ontwikkelaars jaag ook digthede. Maar ons neem baie aspekte in ag. Buildability, koste van dienste, koste per geleentheid, konstruksie periodes, fasering, ontwerp, die mark absorbsie koers (hoeveel eenhede verkoop per maand), die mark pryse van die huise en woonstelle, en nog vele ander data punt. Ek sou aanneem julle moet ook 'n mate van bg inagneem tydens hierdie UD ontwikkeling?

3. As ek na 'n makro erf, soos gearseer A, B, C en D sou kyk (op my handsets), sou ek as ontwikkelaar wou kyk hoe hoog ek die digthede kan kry. Maar, daar is 'n punt waar die koste per eenheid toeneem en die addisionele eenhede nie meer koste effektief is nie. Dit gebeur veral as die mark nie 'n hoor prys vir die eenheid sal aanvaar nie en dus is die verhoogde koste nie aanvaarbaar nie. Tipies gebeur dit is as bijvoorbeeld die woonstelle verby 4 verdiepings gaan (hysbak, strukturele kostes en basement parkering maak dit te duur) of die retaining en platform kostes vir vol titel erwe raak te duur en jaag die huis pryse verby wat die mark sal betaal. Daar is 'n fyn balaans om te handhaaf.
4. My voorstel is die volgende:
    1. Moet nie die "makro erwe" opdeel in deeltitel erwe en vol titel erwe wat die ontwikkelaar beperk om ordentelijk te respond tot die mark en die fisiese beperkinge nie. Soneer dit net as 'n makro erf met 'n mandjie van regte en beperkinge. Laat die ontwikkelaar toe om self die SDP ontwerp te doen, en dan aansoek te doen vir die SDP wat aandui waar die deeltitel en voltitel erwe sit. Dus, 'n deeglikke UD wat deur julle goedgekeur moet word.
    2. Gebruik eerder digthede per hektaar om by julle beoogde hoeveelheid eenhede uit te kom. Moet ook nie se watter % voltittel en watter deeltittel eenhede moet wees nie.
    3. Moet nie die ry erwe op die NIB grense beperk to 300m2 soos op julle voobeeld nie. Dit is nie 'n goeie metric om waarde te bepaal nie. As ek 'n Newinbosch voorbeeld kan gebruik, verkoop ons Townhouses wat op 160m2 erwe is vir R3,2m. Kleiner erwe kan gemaklik hoer waarde eiendomme akkommodeer. Ek kom terug na die punt toe.
    4. Ons inclusionary housing eenhede is bv deeltitel eenhede van 4 stapel simplex per blokkie. Twee eenhede bo en twee eenhede onder van 53m2 elk. Die onderste eenhede leef soos 'n voltitel eenheid omdat dit dit ook 'n redelikke tuintje het. Daardie 4 eenhede sit op erwe van min of meer 250-280m2 en kan 4 eenhede en 8 parkerings akkommodeer. Dit is tight, maar dit werk wonderlik. Julle moet kom kyk.
    5. Dink eerder aan 'n slimmer stel reëls vir hierdie makro erwe (A, B, C en D) langs Newinbosch se grens. Hier is voorbeelde:
        1. Digthede moet min 60 eenhede per hektaar wees en kan 'n kombinasie van voltitel en deeltitel eenhede insluit.
        2. Deeltiteleenhede kan woonstelle, van maks 5 verdiepings insluit, of stapel simplekse of enige iets tussen in.
        3. Die erf moet gesubsidieerde eenhede insluit. Dit kan bv:
            1. 20-30% inclusionary housing eenhede (effektief subsidieer die mark of dan die privaat ontwikkelaar dit) - hier gebruik jy die BESTAANDE STELLENBOSCH IH policy om maximum verkoopspryse te bepaal vir die presentatie van die totale eenhede wat gesubsidieerd is.
            2. FLISP eenhede (selfde hier - die eenhede se pryse word deur die "policy" bepaal.)
            3. SHRA (Social housing eenhede) - en weereens hier gee SHRA baie sterk riglyne oor wat jy kan vra en wat nie, veral vir rental eenhede. Onthou net julle moet hierdie areas dan laat insluit in die restructioring zones.
            4. Of 'n kombinasie van 2 of 3 van bg. Die doel is dat daar tenminste 30% gesubsidieerde eenhede per makro erf is.
        4. Dan, eerder as om die groote van die erfies op Newinbosch se grens te beperk, sal ek eerder net se dat die eenhede direk (se 'n buffer van 40-50m) aan Newinbosch se grens moet 100% mark/ bonded huise wees en geen gesubsidieerde eenhede nie. Die ontwikkelaar gaan dan waarskynlik sy/ haar vol mark eenhede op die grens met Newinbosch plaas, en stelselmatig van noord na suid, gesubsidieerde huise/ woonstelle in sy/ haar SDP inwerk. Dit is 'n normale mark respons tot die beperkinge.

Met bg in aggeneem, gaan jy 'n baie beter "urban design" kry, en die ontwikkelaar toelaat om jare se ervaring in sy repsons tot die ontwerp te gebruik. Ek dink dit is 'n fout om die deeltitel woonstelle op dun rye reg rondom die erwe (soos in die huidige ontwerp) te plaas. Jy "steek" as te ware die voltitel mark eenhede weg agter woonstelle wat nie noodwendig mark eenhede gaan wees nie (SHRA?). Maar, as jy die ontwikkelaar toelaat om self die UD/ SDP te doen, vermoed ek jy gaan 'n goeie mengsel van ST (verhoog digthede) en vol titel eenhede he, met interessante streetscapes waar woonstelle en vol titelhuise, of clusters, of townhouses of stapel simplekse gekombineer word. Ek neem aan die ou ontwerp was om die "less formal residential stands" weg te steek. Die probleem met dit is, sodra jy van 'n ontwikkelaar verwag om mark eenhede ook te ontwikkel, moet die ontwikkelaar 'n "bank pack" goedgekeur kry by alle Suid Afrikaanse bank, en daardie banke moet 'n waardasie gee vir die woonstelle. As dit reg langs, of reg oor "less formal stands" met plakkershuise op is, gaan die bank dit nie goedkeur nie, want dit gaan 'n dinamiese en direkte impak op die "bonded" woonstelle of huise se waarde he. Julle gaan sukkel om die makro erwe aan ontwikkelaars verkoop te kry.

'n Goeie voorbeeld om na te kyk is Conradie. Ek praat onder korreksie, die erwe wat aan ontwikkelaars verkoop word, het min beperkinge behalwe digthede en 'n % van gesubsidieerde eenhede. Die ontwikkelaar gebruik die mark om te bepaal wat op elke erf gebeur.

Ek is natuurlik oop om verder saam te gesels. Maar dit sal my voorstel wees as 'n vertrekpunt.

Laat weet gerus wat julle dink.

Groete,
Harold

From: Harold Spies <harold@similan.co.za>
Date: Friday, 29 August 2025 at 11:37
To: Shaun October <Shaun.October@stellenbosch.gov.za>, Pieter du Toit <pieter@similan.co.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>
Subject: Re: Zoning Plan: Northern Extension ATC Precinct 10
Hi Shaun en Lester,

Ons het groot waardering daarvoor dat julle ons opinie vra en dat julle ons bekommernissen probeer aanspreek. Baie dankie daarvoor.

Ek het 'n paar voorstelle wat binne julle raamwerk en onverdeelplan kan werk. Maar, kan jy my asb die naweek gee om bietjie te dink oor hoe om dit te "frame". Ek dink nie die antwoord lê daarin om 'n dun "strip" van markeenhede teen ons grens te sit nie. Ek sit my nou 'n ontwikkelaar se skoene en dink hoe sal ek dan reageer met 'n ontwerp wat beide die mark sal aanvaar, asook die banke vir waardasies en dan net hoe doen jy 'n werklik tenure neutral ontwerp wat werk. Ek wil dink aan hoe kan ons beter voorwaardes skryf vir portie 24, 29, 30 en dan die een van 4,572 ha (ek kan nie die porsie nommer sien nie). Ek dink ek het 'n antwoord, maar wil net nog so bietjie koninklikke dinkwerk doen.

Ek antwoord jou Maandag.

Groete,
Harold

From: Shaun October <Shaun.October@stellenbosch.gov.za>
Date: Thursday, 28 August 2025 at 11:58
To: Pieter du Toit <pieter@similan.co.za>, Harold Spies <harold@similan.co.za>
Cc: Lester Vanstavel <Lester.Vanstavel@stellenbosch.gov.za>, Chanel Olivier (Admin Housing Development) <Chanel.Olivier@stellenbosch.gov.za>
Subject: Zoning Plan: Northern Extension ATC Precinct 10
Hi Pieter and Harold

Once again, thank you for the fruitful meeting we had last week Wednesday, 20th of August 2025 to discuss the different phases of development, and to address some concerns ito the typology and erf sizes in phases 7 and 8 that borders Newinbosch development.

We have updated the description on the layout plan under the Convention Residential Zone as an area reserved for open market housing with minimum erf sizes of 300m^2. This will form part of the submission to MPT for a decision.

Please provide us with your comment if this proposal is in order and that you have no objection with the proposed layout attached.

Your earliest response would be greatly appreciated.

Kind regards,

Shaun October
Programme Manager
Department: Housing Development
Directorate: Planning & Economic Development

T: +27 21 808 8756
NPK Building, corner of Rynveld and Van Riebeeck Streets, 2nd Floor,
Stellenbosch, 7600
www.stellenbosch.gov.za

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Rudolf Schröder

From: Lourens Fick
Sent: Monday, 04 March 2024 11:55
To: 'stlandbo@mweb.co.za'; 'infostlandbo@mweb.co.za'
Cc: Rudolf Schröder
Subject: Land Use Application LU/16553(TP592/2023) - Portions of the Farms 182 and 183 Stellenbosch

Tracking:

Recipient	Delivery
'stlandbo@mweb.co.za'	
'infostlandbo@mweb.co.za'	
Rudolf Schröder	Delivered: 2024/03/04 11:55

Dear Sir/Madam,

The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements .

If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

You are hereby invited to submit comments and / or objections on the application.

Written comment, which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments, and the interest of the person who submits the comment in the application, may be submitted to the Applicant by electronic mail as follows: Zutari, attention Rudolf Schröder at rudolf.schroder@zutari.com. By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant.

The comments must be submitted within 30 days from the date of this notice to be received on or before the closing date of (05 April 2024).

For any enquiries on the Application or the above requirements, or if you are unable to write and /or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at (+2744 8055400) during normal office hours.

Details of the application are provided below:

ERF NUMBER & APPLICATION NUMBER

Portions of the Farms 182 and 183 Stellenbosch (LU/16553(TP592/2023))

DESCRIPTION OF THE PROPOSED DEVELOPMENT

a) In terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **subdivision** of the Remainder of Farm 183 into two Portions.

b) In terms of Section **15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

c) In terms of Section **15(2)(a)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **rezoning** of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:
   - 1338 Conventional Residential Zone stands
   - 1354 Less Formal Residential Zone stands

- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands
- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan

d) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **Subdivision** of the consolidated property in accordance with the Subdivision plan, in order to give effect to the proposed land uses.

e) Approval of the Phasing Plan.

APPLICANT

Zutari, represented by Rudolf Schröder

PROPERTY ADDRESS:

Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Kind Regards,

Lourens Fick *BA Development & Environment, CAPM®*

SENIOR CONSULTANT, ENVIRONMENT AND PLANNING | ZUTARI

E Lourens.Fick@zutari.com W zutari.com



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Rudolf Schröder

From:	Lourens Fick
Sent:	Monday, 04 March 2024 11:55
To:	'info@stellenboschratepayers.org'; 'secretary@stellenboschratepayers.org'
Cc:	Rudolf Schröder
Subject:	Land Use Application LU/16553(TP592/2023) - Portions of the Farms 182 and 183 Stellenbosch

Tracking:	**Recipient**	**Delivery**
	'info@stellenboschratepayers.org'	
	'secretary@stellenboschratepayers.org'	
	Rudolf Schröder	Delivered: 2024/03/04 11:55

Dear Sir/Madam,

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APPLICANT

Zutari, represented by Rudolf Schröder

PROPERTY ADDRESS:

Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Kind Regards,

Lourens Fick *BA Development & Environment, CAPM®*

SENIOR CONSULTANT, ENVIRONMENT AND PLANNING | ZUTARI

E Lourens.Fick@zutari.com W zutari.com



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Rudolf Schröder

From:	Lourens Fick
Sent:	Monday, 04 March 2024 11:55
To:	'info@stellenboschinterestgroup.org'
Cc:	Rudolf Schröder
Subject:	Land Use Application LU/16553(TP592/2023) - Portions of the Farms 182 and 183 Stellenbosch

Tracking:	**Recipient**	**Delivery**
	'info@stellenboschinterestgroup.org'	
	Rudolf Schröder	Delivered: 2024/03/04 11:55

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e) Approval of the Phasing Plan.

APPLICANT

Zutari, represented by Rudolf Schröder

PROPERTY ADDRESS:

Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Kind Regards,

Lourens Fick *BA Development & Environment, CAPM®*

SENIOR CONSULTANT, ENVIRONMENT AND PLANNING | ZUTARI

E Lourens.Fick@zutari.com **W** zutari.com



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Rudolf Schröder

From: Lourens Fick
Sent: Monday, 04 March 2024 11:55
To: Vanessa.Stoffels@westerncape.gov.za
Cc: Rudolf Schröder
Subject: Land Use Application LU/16553(TP592/2023) - Portions of the Farms 182 and 183 Stellenbosch

Dear Sir/Madam,

The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements .

If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

You are hereby invited to submit comments and / or objections on the application.

Written comment, which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments, and the interest of the person who submits the comment in the application, may be submitted to the Applicant by electronic mail as follows: Zutari, attention Rudolf Schröder at rudolf.schroder@zutari.com. By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant.

The comments must be submitted within 30 days from the date of this notice to be received on or before the closing date of (05 April 2024).

For any enquiries on the Application or the above requirements, or if you are unable to write and /or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at (+2744 8055400) during normal office hours.

Details of the application are provided below:

ERF NUMBER & APPLICATION NUMBER

Portions of the Farms 182 and 183 Stellenbosch (LU/16553(TP592/2023))

DESCRIPTION OF THE PROPOSED DEVELOPMENT

a) In terms of Section **15(2)(d)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **subdivision** of the Remainder of Farm 183 into two Portions.

b) In terms of Section **15(2)(e)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **consolidation** of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.

c) In terms of Section **15(2)(a)** of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **rezoning** of the consolidated property from "Agriculture and Rural Zone" to a "subdivisional area" in order to allow for the following uses:

- 1338 Conventional Residential Zone stands
- 1354 Less Formal Residential Zone stands
- 8 Multi-unit Residential Zone stands
- 25 Public Open Space Zone stands
- 2 Transport Facility Zone stands
- 4 Mixed Use Zone stands
- 2 Education Zone stands
- 2 Agriculture and Rural Zone stands

- 3 Utility Zone stands
- 6 Community Zone stands
- Public Roads and Parking

as shown on the proposed Subdivision plan

d) In terms of Section 15(2)(d) of the Stellenbosch Municipality By-Law on Municipal Land Use Planning, 2023, for the **Subdivision** of the consolidated property in accordance with the Subdivision plan, in order to give effect to the proposed land uses.

e) Approval of the Phasing Plan.

APPLICANT

Zutari, represented by Rudolf Schröder

PROPERTY ADDRESS:

Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Kind Regards,

Lourens Fick *BA Development & Environment, CAPM®*

SENIOR CONSULTANT, ENVIRONMENT AND PLANNING | ZUTARI

E Lourens.Fick@zutari.com W zutari.com



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Rudolf Schröder

From:	Lourens Fick
Sent:	Monday, 04 March 2024 11:55
To:	'elmarie@wineroute.co.za'
Cc:	Rudolf Schröder
Subject:	Land Use Application LU/16553(TP592/2023) - Portions of the Farms 182 and 183 Stellenbosch

Tracking:	**Recipient**	**Delivery**
	'elmarie@wineroute.co.za'	
	Rudolf Schröder	Delivered: 2024/03/04 11:55

Dear Sir/Madam,

The application is available for inspection on the Planning Portal of the Stellenbosch Municipal Website for the duration of the public participation process at the following address: https://www.stellenbosch.gov.za/planning/documents/planning-notices/land-use-applications-advertisements .

If the website or documents cannot be accessed, an electronic copy of the application can be requested from the Applicant.

You are hereby invited to submit comments and / or objections on the application.

Written comment, which must include the reference to the application, the name, contact details and physical address of the person to submit the comments, the reasons for the comments, and the interest of the person who submits the comment in the application, may be submitted to the Applicant by electronic mail as follows: Zutari, attention Rudolf Schröder at rudolf.schroder@zutari.com. By lodging an objection, comment or representation, the person doing so acknowledges that information may be made available to the public and to the applicant.

The comments must be submitted within 30 days from the date of this notice to be received on or before the closing date of (05 April 2024).

For any enquiries on the Application or the above requirements, or if you are unable to write and /or submit your comments as provided for, you may contact the Applicant for assistance at the e-mail address provided or telephonically at (+2744 8055400) during normal office hours.

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- 2 Transport Facility Zone stands
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as shown on the proposed Subdivision plan

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e) Approval of the Phasing Plan.

APPLICANT

Zutari, represented by Rudolf Schröder

PROPERTY ADDRESS:

Portions of the Farms 182 and 183 Stellenbosch, North of Kayamandi, Stellenbosch

Kind Regards,

Lourens Fick *BA Development & Environment, CAPM®*

SENIOR CONSULTANT, ENVIRONMENT AND PLANNING | ZUTARI

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Subject: Stellenbosch Northern Extension ATC Precinct 10

Read: Stellenbosch Northern Extension ATC Precinct 10
Christo Blake <blakelibertas@outlook.com>
Sent Mon 2025/10/27 08:44
To Rudolf Schröder

Your message

To: Christo Blake
Subject: Stellenbosch Northern Extension ATC Precinct 10
Sent: Friday, October 24, 2025 1:57:25 PM (UTC+02:00) Harare, Pretoria

was read on Monday, October 27, 2025 8:43:28 AM (UTC+02:00) Harare, Pretoria.

Rudolf Schröder

From:	Rudolf Schröder
Sent:	Friday, 24 October 2025 13:57
To:	blakelibertas@outlook.com
Cc:	Chris van der Walt; Elzaan Jordaan
Subject:	Stellenbosch Northern Extension ATC Precinct 10
Attachments:	Stellenbosch Northern Extension Zoning & Subdivision Plan.pdf

Tracking:	**Recipient**	**Delivery**
	blakelibertas@outlook.com	
	Chris van der Walt	
	Elzaan Jordaan	Delivered: 2025/10/24 13:59

AC Blake Familie Trust
blakelibertas@outlook.com
Portion 3 of the Farm 183

Dear AC Blake Familie Trust

You as adjacent property owner to the proposed Northern Extension Development (Adam Tas Corridor Precinct 10 – Stellenbosch Northern Extension Integrated Mixed-Income Human Settlement Development - Rezoning and Subdivision of Portions of the Farms 182 and 183 Stellenbosch) was first notified of the proposed development in March 2024 when the public participation process for the land use planning application was undertaken. We would like to record that we did not receive any comments from you in this regard and that all other interested parties' comments were considered.

Considering the amount of time that has lapsed since the land use planning application has been submitted up to now where the application is nearing the point where a decision can be taken by the local authority, you are therefore being informed as an interested party of the latest proposed development plan.

Please find attached to this email the latest proposed zoning and subdivision plan.

The overall development concept has not changed much from the plan that was submitted with the land use planning application for your previous comments, but some amendments were made to the layout plan in response to comments received during the processing of the application. We can confirm that the changes do not impact you as an interested party as the layout and land uses proposed adjacent to your property boundary remained unchanged.
Some of the amendments that were made to the layout plan are as follows:

- some of the land uses in the layout have been shifted to different locations (area earmarked for a community facility moved to be closer to the utility site)
- the informal settlement that is located on the Southern part of the site closest to Kayamandi (Azania informal settlement) will not be relocated but rather upgraded with services in its current location
- the Stellenbosch Municipality is applying to establish the overall development rights (rezone to subdivisional area) to make provision for the proposed development, but the project will be implemented in phases subject to the availability of funding and detailed subdivision plans will still be completed per phase.

Considering the nature of the changes made and the fact that you did not submit any previous comments, we trust that you will find the latest layout plan favourable/acceptable.

We trust you will find the above in order.

The latest layout plan attached will serve at the Municipal Planning Tribunal in due course. Should you have any queries, we are available to provide clarity and more information should there be need therefore.

Please do not hesitate to contact me should you have any further queries.

Kind regards,

Rudolf Schröder *Pr. Pln, M.PMSA, MTRP*

ASSOCIATE SPECIALIST | ZUTARI

M +27833906963 **E** Rudolf.Schroder@zutari.com **W** zutari.com



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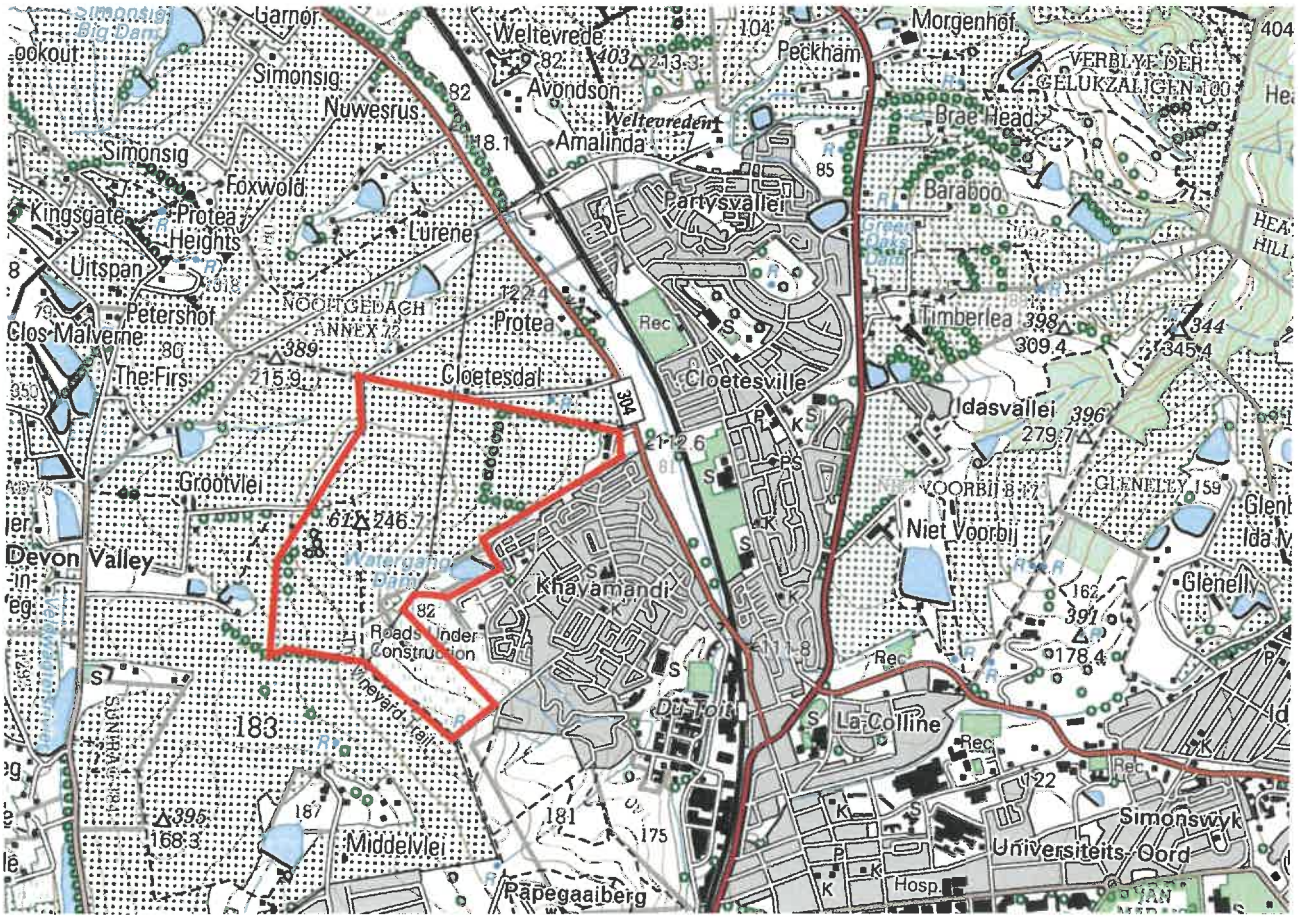
ANNEXURE M

DRAFT FOR COMMENT

Heritage Impact Assessment

De Watergang and Grootvlei Farms, Stellenbosch

Remainder of Portion 1 of Farm 182; Remainder Farm 183, Portion 23 of Farm 183, Portion 36 of Farm 183, Portion 37 of Farm 183, Remainder of Portion 1 of Farm 183, and Remainder of Portion 5 of Farm 183, Stellenbosch



Prepared by

Lize Malan, Janine Herholdt & David Gibbs

October 2023

EXECUTIVE SUMMARY

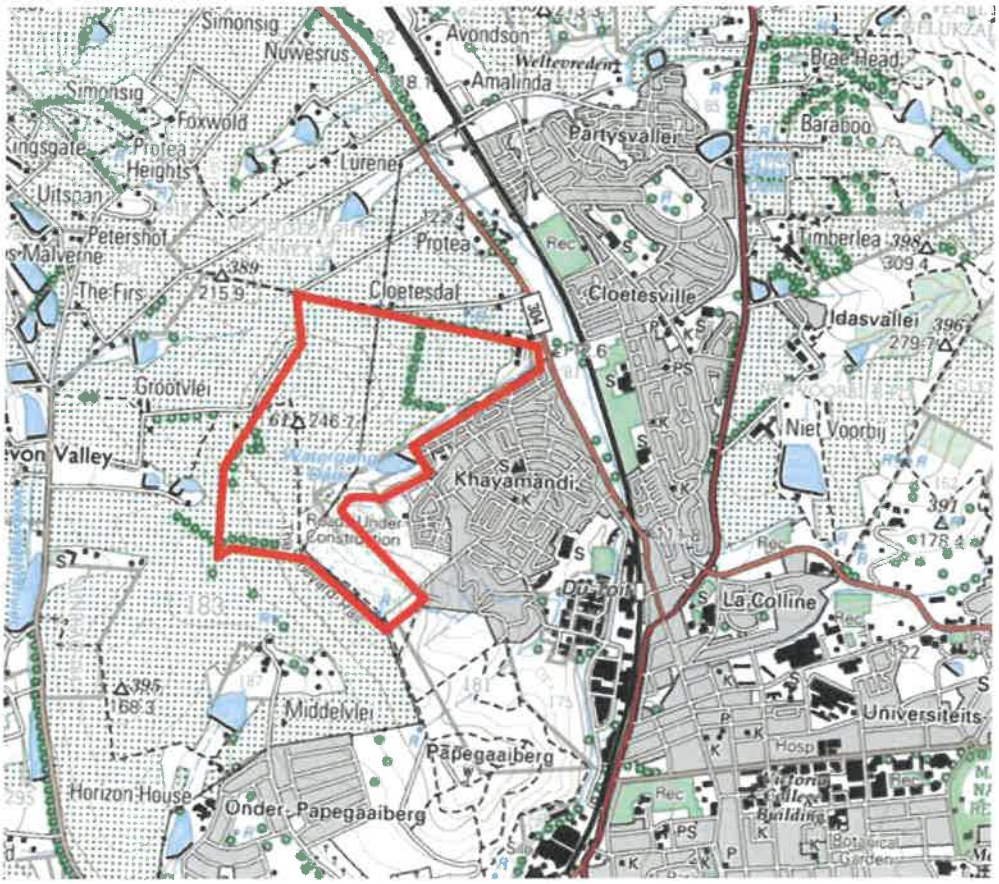
Site name

De Watergang and Grootvlei Farm, Stellenbosch
(Remainder of Portion 1 of Farm 182; Remainder Farm 183, Portion 23 of Farm 183, Portion 36 of Farm 183, Portion 37 of Farm 183, Remainder of Portion 1 of Farm 183, and Remainder of Portion 5 of Farm 183, Stellenbosch)

Location

Located to the west of the R301and immediate to the north of Kayamandi, Stellenbosch
GPS coordinates: 33°54'54.33" S; 18°50'07.88" E

Location Plan



Extract from 1:50 000 Map Series Maps 3318DD (published 2010) illustrating the location of the site

Description of the application

The proposal entails predominantly residential development, which will include a variety of typologies and funding mechanisms ranging from free-standing single residential units to apartments in mixed-use multi-storey buildings. A significant portion of the opportunities will be delivered as serviced sites through the Upgrade of Informal Settlements Programme (UISP) of the provincial government. Other opportunities will include fully subsidised units, units that will

be delivered through Finance Linked Individual subsidies (FLISP) and units aimed at the GAPP market. In total more than 4000 units will be provided. In addition, the following facilities will be provided as part of the development:

- 2 primary schools and 1 secondary school
- 17 day-care/ creche facilities
- a post office, community hall, clinic, ICT access point and provision for 5 places of worship
- an interchange for public transport
- a network of hard and soft public open spaces and attenuation ponds of 21,6ha
- an area set aside for conventional agriculture and possibly hydroponic cultivation on a smaller portion with a total area of 35 ha
- an agricultural training facility on a 1,9ha site

Heritage resources

No heritage resources intrinsic to the site were identified by the heritage specialist and archaeologist. Nor were any heritage resources identified in the immediate vicinity of the site. The heritage resource associated with the site is its context, which forms part of the Cape Winelands cultural landscape.

Significance of heritage resources

The site straddles two landscape units graded as IIIB in the Stellenbosch Heritage Inventory. Both the Devon Valley to the west of the ridgeline and the western slopes of the Plankenbrug Valley (i.e., to the east of the ridgeline) are regarded as having aesthetic and economic significance. Given that a large development immediately to the north-east of the site has recently been approved, and the site will in future be surrounded by urban development to its north, east and south, the IIIB grading for the eastern portion of the site is regarded as inappropriate and is suggested to be IIIC. The Devon Valley, however, has retained its rural landscape of great scenic value and thus the IIIB grading is regarded as appropriate.



Suggested grading of the site

Impacts on resources

As suggested above, from a heritage and visual perspective, impacts on the visual integrity of the Devon Valley rural area is the most significant concern for this heritage impact assessment. The indicators noted that no urban development on the eastern portion should protrude above the ridgeline so that it is visible from the Devon Valley side. In this regard the proponents have adjusted the development framework to accommodate this requirement, by removing the planned training facility on the western portion of the site. Development will however still extend up to the ridgeline and thus may be visible from the Devon Valley side, if not mitigated.

Of lesser concern is the visibility of development on the north-eastern edge of the development area, that will extend to the upper slopes of the ridge beyond the new development to the north of the site and thus visible from the R304 when approaching Stellenbosch. This impact is less significant, as the eastern portion of the site is already impacted by urban development, and it is anticipated that the impact could be adequately mitigated with landscaping.

Findings and recommendations

The site can potentially absorb a significant extent and intensity of development, without impacting negatively on heritage resources. These resources are restricted to the visual amenity of the cultural landscape, particularly that of the Devon Valley.

Overall, the significance of the impact of the proposed development is regarded as **moderate** reducing to **medium to low** with mitigation.

Although the lack of more detailed information (and in particular 3D modelling), has made the assessment somewhat difficult, the authors are confident that although the concerns raised with respect to certain aspects of the development are valid, these can be addressed further down the line within the approval processes.

Thus, it is recommended that the **preferred development option is supported**, subject to the following:

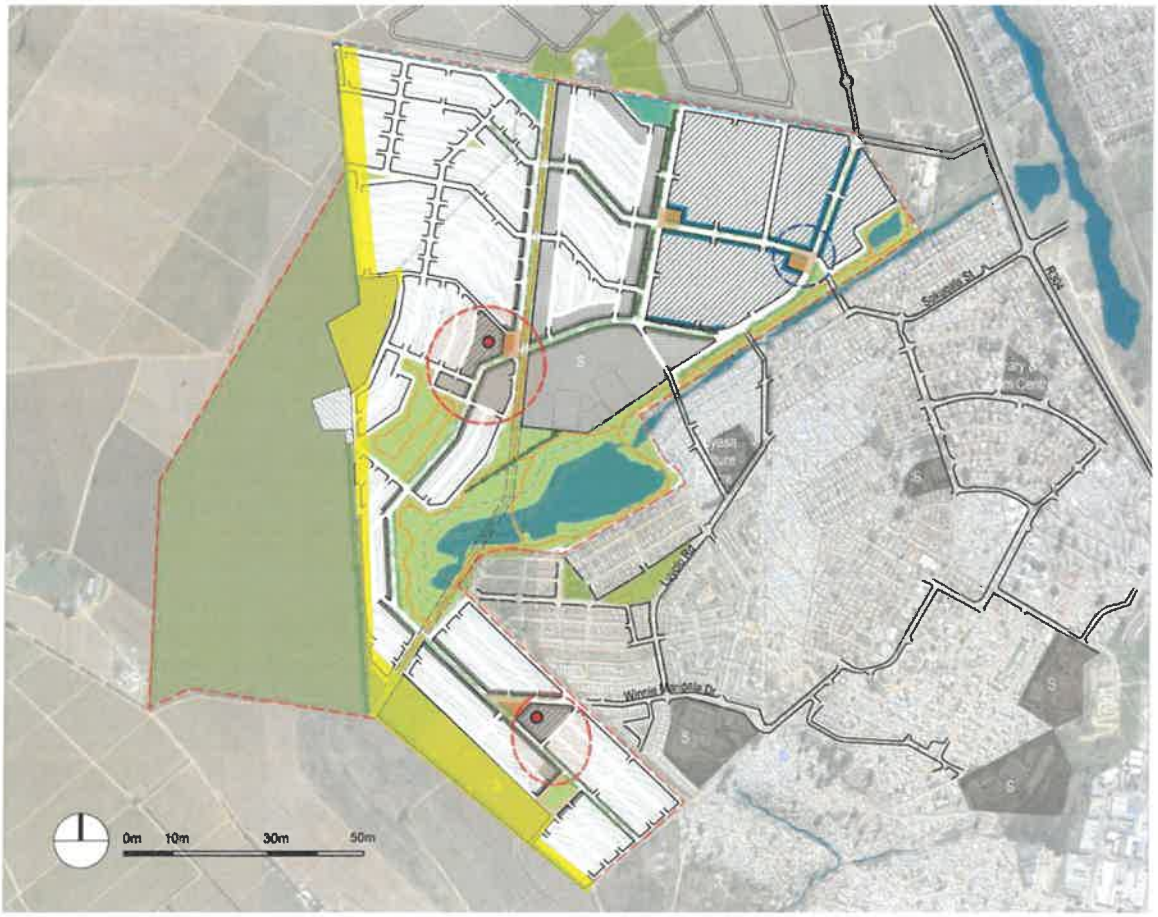
- Development guidelines aimed at enforcing height restrictions as per the indicators (to a maximum of 5 storeys on the lower eastern portion) and addressing massing of buildings (to avoid over-scaled monolithic structures) are prepared and submitted to the Stellenbosch Municipality, Heritage Section for approval.

- A landscape framework plan that addresses at least tree planting and fencing, particularly at the interface with rural landscapes is prepared by a suitably qualified landscape architect and submitted to the Stellenbosch Municipality, Heritage Section for approval.

- Development of any structures within the eastern portion of the site that may protrude above the ridgeline, and/or development of any structures on the western portion of the site (to the west of the ridgeline) should be subject to the submission of site development plans to the local authority for approval by the Stellenbosch Municipality, Heritage Section. These SPDs should indicate building placement, massing and landscaping and should include 3D modelling, where appropriate.

  The yellow-highlighted area below indicates the portions of the site where new structures will require submission of SDPs/sketch plans to the Stellenbosch Municipality, Heritage Section for approval. In particular, proposals for new public/community facilities will require detailed SDPs to be submitted, and all new houses proposed within the yellow area will require the submission of sketch plans which must also indicate landscaping.

  The Stellenbosch Municipality Heritage Section should have the power to restrict the height of structures to one storey, to direct the placement of buildings on these sites and prescribe landscaping requirements.



UDF to be approved, subject to the submission of SDPs/sketch plans for any development within the area highlighted yellow, for approval by Stellenbosch Municipality, Heritage Section

Lize Malan, David Gibbs and Janine Herholdt hereby declare that we have no conflicts of interest related to the work of this report. Specifically, we declare that we have no personal financial interests in the property and/or development being assessed in this report, and that we have no personal or financial connections to the relevant property owners, developers, or financiers of the development. We declare that the opinions expressed in this report are our own and a true reflection of our professional expertise.

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1 INTRODUCTION

This report presents heritage impact assessment for the proposed development of De Watergang and Grootvlei Farms, part of the so-called northern extension of Stellenbosch. The area under consideration consists of the following farm portions: **Remainder Farm 182; Remainder of Portion 1 of Farm 182; Remainder Farm 183, Portion 23 of Farm 183, Portion 36 of Farm 183, Portion 37 of Farm 183, Remainder of Portion 1 of Farm 183, and Remainder of Portion 5 of Farm 183, Stellenbosch.** The site measuring 135,24ha in total is situated to the north of Stellenbosch abutting Kayamandi, to the west of the R304. It consists of portions of the farms De Watergang and Grootvlei. The Stellenbosch Municipality (SM) intends to facilitate the development of between ±4000 and ± 6000 residential opportunities, as well as providing the required social amenities and public facilities required.

This application is made in terms of Section 38(8) of the National Heritage Resources Act, as the development is subject to the requirements of the National Environmental Management Act.

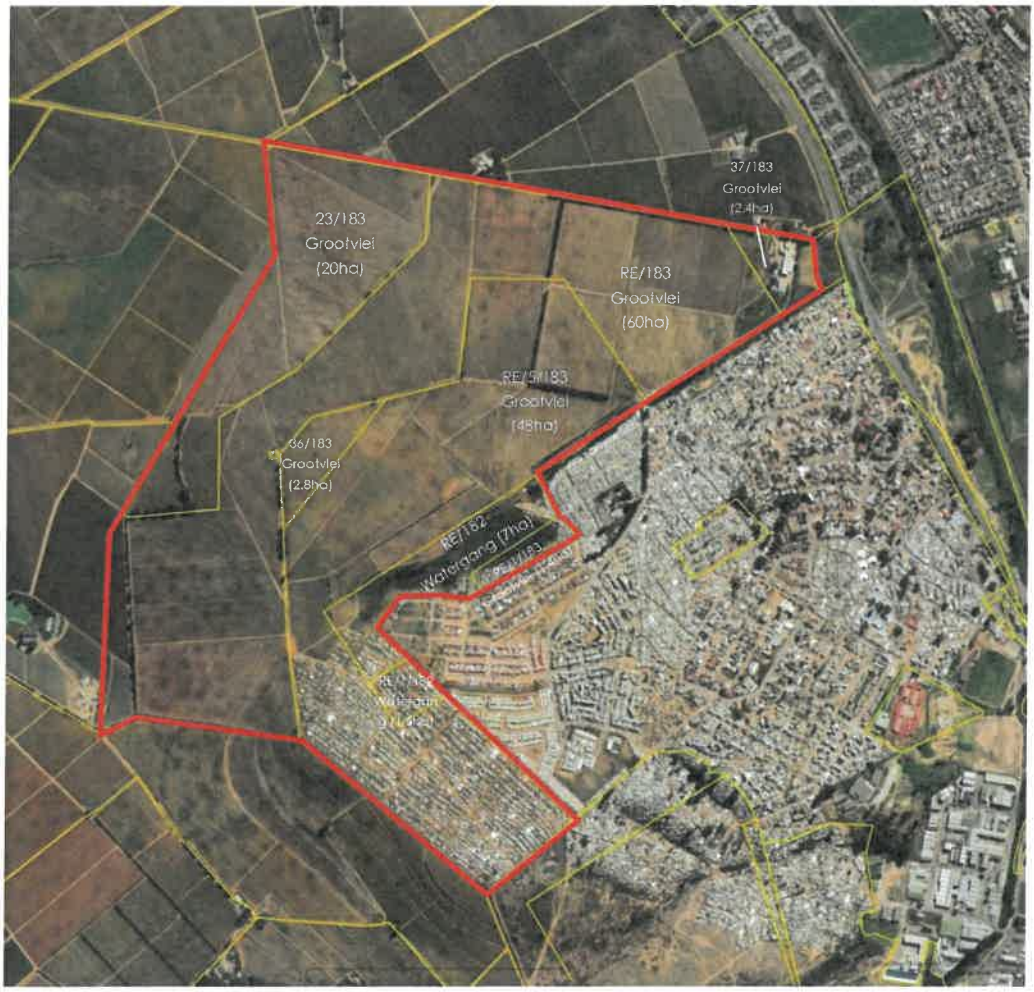


Figure 1: The site in its immediate context at 1:10 000 @ A3 scale,with relevant farm portions. (Source: Cape Farm Mapper)

2 THE SITE AND ITS CONTEXT

The site is located to the north of Kayamandi between the R304 to the east and Devon Valley to the west. The site consists of various farm portions, including Watergang Farm which was recently acquired by the Stellenbosch Municipality for housing development, and Grootvlei Farm to the north and west of Watergang. Cloetesdal Farm is situated to the north-east of the site and is currently in the process of obtaining approval for a significant mixed-used development. The south of the site directly abuts the settlement area of Kayamandi with farmland to the north and west of the site. To the east of the site on the other side of the R304 the land between the R 304 and the railway line is vacant and used informally for recreation purposes. Recent medium density housing is located to the north-east of the site on other side of the R304. Beyond the railway line lays the suburb of Cloetesville.

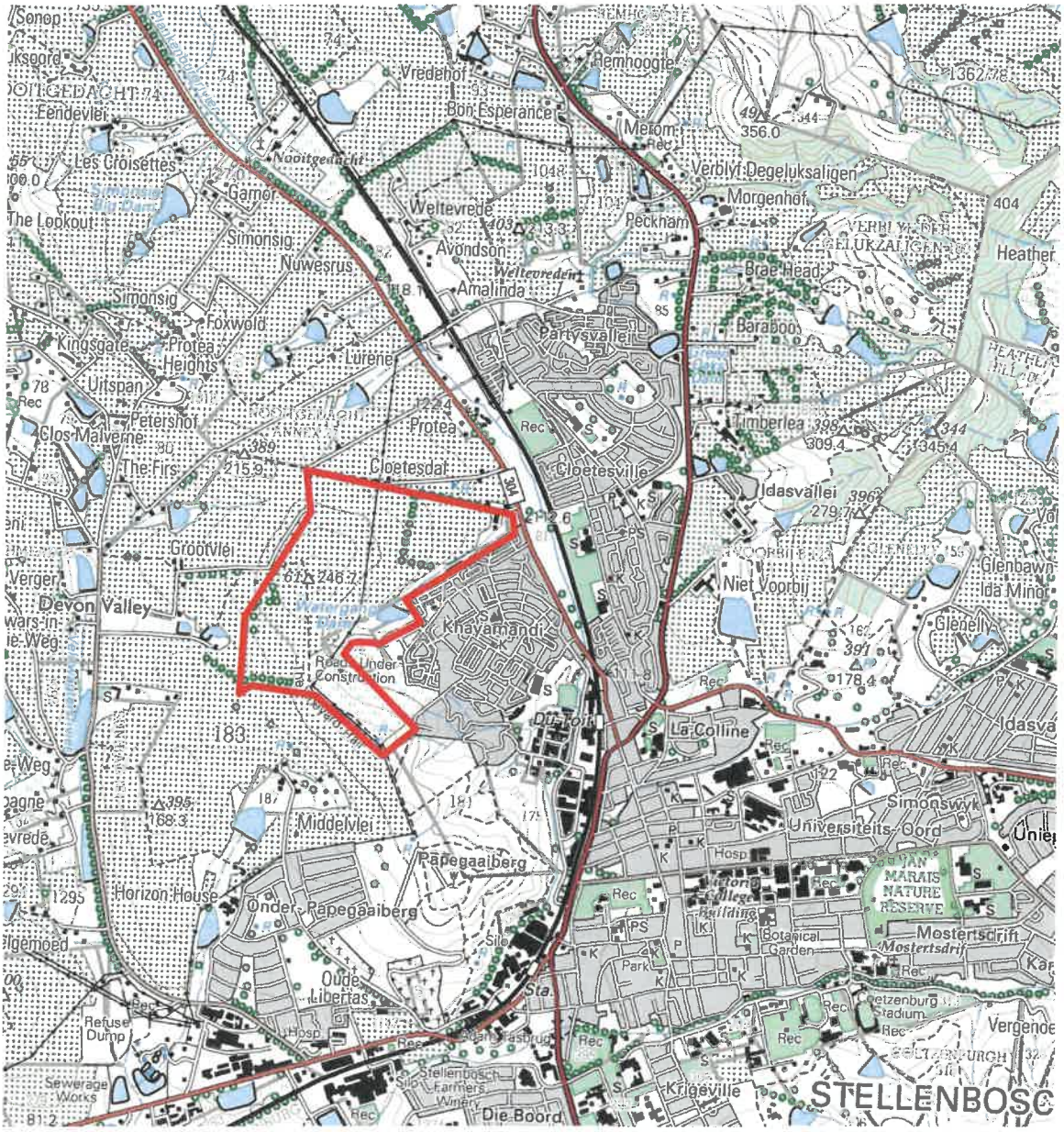


Figure 2: Locality Plan: Extract from 1:50 000 Map Series Maps 3318DD (published 2010) Chief Directorate Surveys and Mapping

The site slopes down from west to east towards the R304, and from north to south towards Kayamandi, with a high point situated to the northwestern part of the site. The topography offers views in all four directions, with shallow valleys, accommodating natural drainage lines to the north-east and south of the site. Devon Valley lies beyond the ridgeline to west of the site. The Plankenbrug River runs in the north south-valley to the east of the site and the Watergang dam is situated in the southern portions of the site abutting Kayamandi.



Figure 3: View from the northern boundary towards the north east – with Cloetesdal farm to the right of the photograph and the R304 marked by treelines in the middle ground.

The site itself is semi triangular in shape with the current Watergang informal settlement forming a rectangular arm to the south of the site. Access to the site is taken off the R304, at the entrance to the Louisenhof winery. The site is largely vacant except for the Watergang informal settlement and the Louisenhof cellar complex located close to the R304. The site is still planted with vineyards, but these are not being maintained and a significant percentage seems to have been removed for firewood. Some treelines have been planted on the site to form windbreaks. The windbreak on the northern boundary screens half of the site from Cloetesdal and the land further north. To the south of there is row of olive trees, planted along the edge of the drainage line.



Figure 4: Olive Avenue adjacent to the southern boundary of the site.

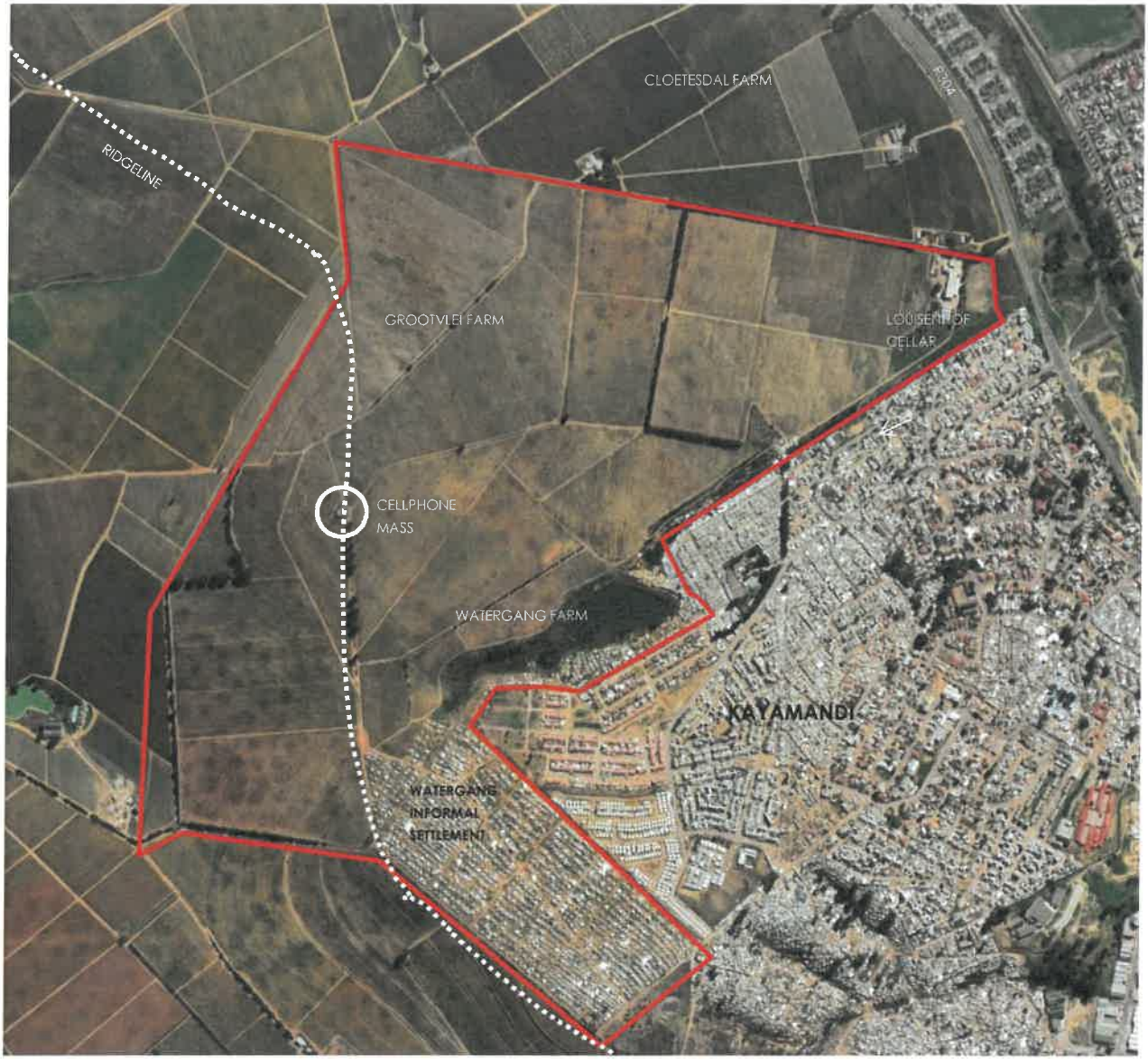


Figure 5: Aerial view of the site and key features mapped (Source: Cape Farm Mapper)

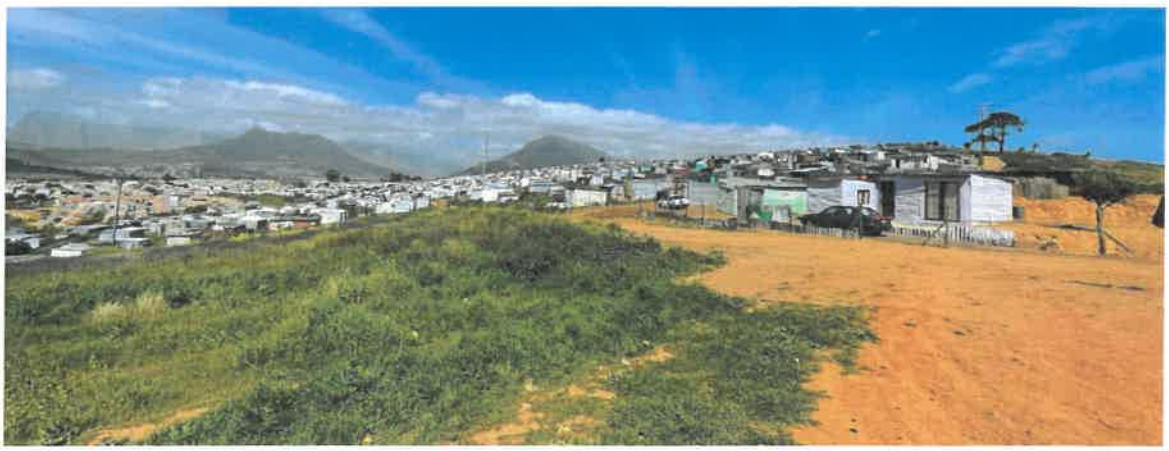


Figure 6: South-western rectangle/arm of the site with informal settlement



Figure 7: View to the south –east form the high point with Kayamanidi and Cloetesville visible in the background



Figure 8: Stitched photograph of view towards Devon Valley from the high point of the site.



Figure 9: Windbreak on northern boundary to the left with north-south running line of trees roughly in the middle of the eastern portion in the middle ground.

3 ASSUMPTIONS AND LIMITATIONS

3.1 Availability of Information

This report is based on the information that was available at the time of writing. All material by others informing this assessment, including historical and planning/land use background information from earlier applications, is assumed to be accurate and a true reflection of the issues governing the property and its proposed redevelopment.

3.2 Statement of Significance

The significance of cultural resource is dynamic and multi-faceted, in particular as interest groups and societal values change over time. It is thus neither possible, nor appropriate to provide a definitive statement of heritage significance. Nonetheless, every effort has been made to ensure that the heritage statement is as accurate a reflection of significance as is currently possible to ascertain. It is also noted that the perceptions of visual impacts can be highly subjective.

3.3 Impacts beyond the Site Boundaries

This report does not address heritage impacts resulting from the potential laying of pipelines, electrical and other related infrastructure between the site and elsewhere beyond its boundaries.

4 METHODOLOGY

The methodology followed to prepare this report entailed the following:

- Site visits in order to identify possible heritage resources on the property and related to the site, including its context and visual sensitivity.
- A review of relevant studies, available, such as the Stellenbosch Heritage Inventory that contribute to an understanding of the heritage resources related to the site.
- A review of the relevant legislation that informs this study.
- Research at the Surveyor General, the Deeds Office and other reference material, to gain an understanding of the history of the site.

5 LEGAL CONTEXT

5.1 National Heritage Resources Act (Act 25 of 1999) (NHRA)

Following on a submission of NID by Guillaume Nel Environmental Consultants in terms of Section 38(1)(d) and 38(1)(c)(i), HWC requested a heritage impact assessment that has specific reference to an archaeological impact assessment and a visual impact assessment on the cultural landscape. A copy of the response from HWC is attached in Annexure A. Note that it is not the intention to prepare a stand-alone VIA – instead one of the co-authors of this HIA, is a visual specialist, Mr David Gibbs and thus visual issues are integrated into HIA from the outset.

No other sections of the NHRA are applicable as the site does not fall within a declared conservation area or a current heritage protection area, is not a Provincial Heritage Site, and it is unlikely that any of the structures on the property are older than 60 years.

5.2 National Environmental Management Act (Act 107 of 1998) (NEMA)

The National Environmental Management Act (Act No. 107 of 1998), as amended, (NEMA) makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorization from the relevant authorities based on the findings of an environmental impact assessment. NEMA is a national act, which is enforced by the Department of Environmental Affairs (DEA). However, these powers are delegated in the Western Cape to the Department of Environmental Affairs and Development Planning (DEA&DP). DEA&DP will consider the comments of HWC in response to the HIA prior to issuing environmental authorisation in response to the proposed activities.

In terms of the 2014 Environmental Impact Assessment Regulations (GN R. No. 982, GN R No. 983, GN R. No. 984 and GN R. No. 985 published in terms of section 24 of NEMA, the following proposed activities trigger the need for authorization in terms of NEMA:

(28) *Residential, mixed, retail, commercial, industrial, or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development will occur outside an urban area, where the total land to be developed is bigger than one hectare.* Stellenbosch Municipal Land Use Planning By-Law (2015) (SMPBL)

5.3 Land Use Planning Requirements

A rezoning and subdivision application for the portions that constitute the development area will be required in terms of Section 15(2)(a) of the Stellenbosch Municipal Land Use Planning By-Law (2015) (SMPBL) and the Stellenbosch Zoning Regulations to facilitate the development of the site. All of the portions will be rezoned from "Agriculture and Rural Zone" to "Subdivisional Area" and Portions 23, 36, Remainder, Portion 1, Remainder of Portion 5 of Farm 183 Stellenbosch and the Remainder & Portion 1 of Farm 182, Stellenbosch will be subdivided in accordance with the subdivision plan in terms of Section 15(2)(d).

6 POLICY CONTEXT

The policy context is critical to determine the desirability of the development of the site. The site forms the core of land that has been earmarked by the municipality for the so-called 'northern

extension' of Stellenbosch, where the intention is to accommodate housing for lower- and middle-income groups. Figure 10 below indicates the location of the site constituting the bulk of this extension area.

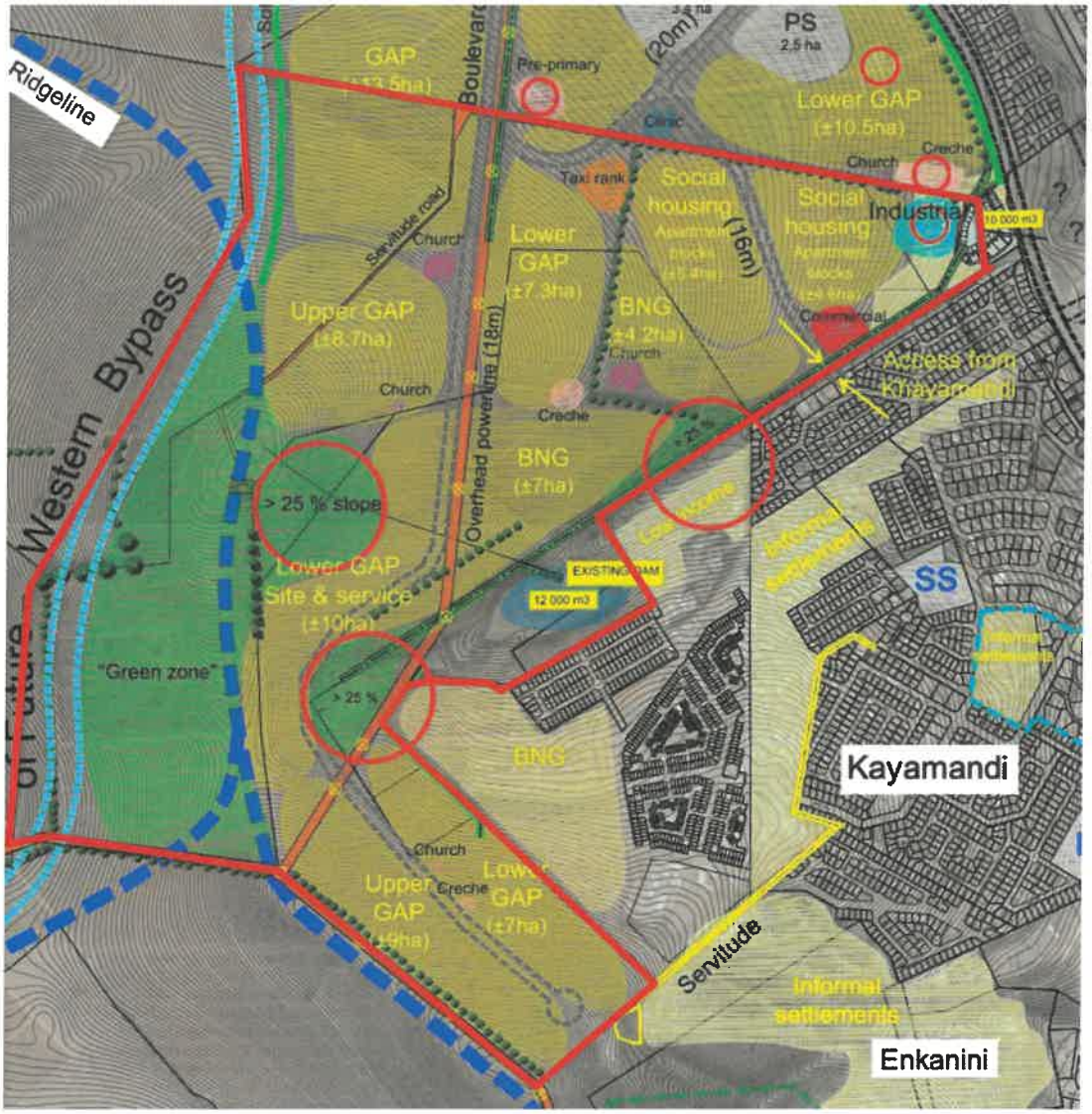


Figure 10: Extract from Northern Extension Plan (Source: TV3 Architects, 2017)

Although detailed aspects of this plan have not been taken up in the SDF of 2019, in particular the bypass road indicated to the west, the SDF endorses medium to high density development of this area as means to create affordable housing opportunities for the town aimed at achieving greater integration in Stellenbosch and is included in the urban edge of the 2019 SDF. The R304 is identified by the MSDF as a "primary development axis / transport corridor", which "should be explored for new high-density mixed-use infill development" (MSDF, p. 55&58). Furthermore, the document states that: "Ideally, Kayamandi should not be extended beyond the northern reach of Cloetesville (with Welgevonden Boulevard as the northern edge) and its reach to the east should be minimized as far as possible (in other words, a band of development along the R304 should be promoted)" (MSDF, p67). Figure 11 indicates the site allocated for Mixed Use Community and Residential Infill, in accordance with the development intentions for the site.

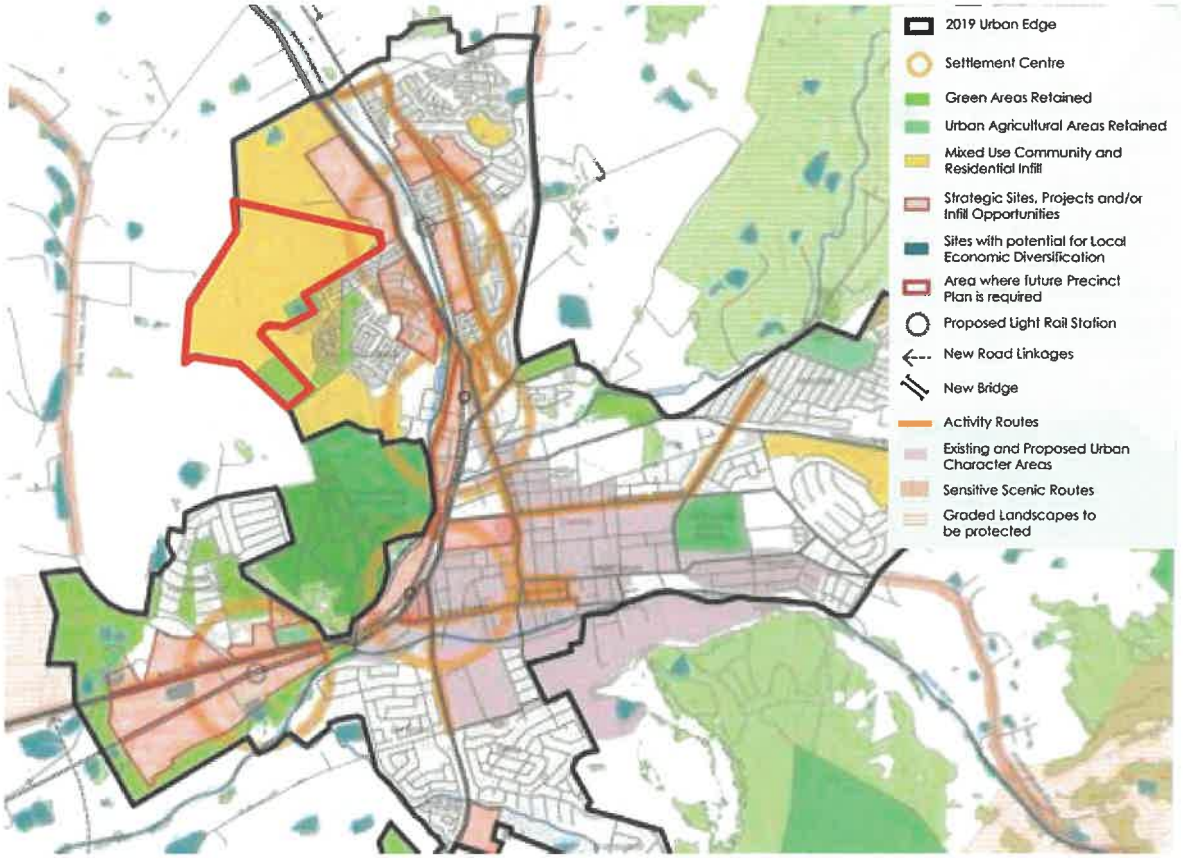


Figure 11: The location of the site within the Stellenbosch Spatial Framework as contained in the final 2019 Stellenbosch MSDF.

It is noted that the site is not indicated for development Adam Tas Corridor Farm (ATC) Framework recently prepared by the Stellenbosch Municipality. The vision for the northern precinct of the corridor is to create "a gateway precinct at the northern entrance to Stellenbosch and the ATC" and that the site should "contain a higher proportion of housing than other precincts, as well as mixed use retail and commercial activities". Principles for development in this area includes medium-density mixed housing with building heights of 2-4 storeys with medium density along the R304 and slightly lower density towards the west.

After the concept for the Northern Extension was officially endorsed by Council in 2017 a professional team was appointed by the Stellenbosch Municipality to conduct a due diligence assessment to assess whether the expansion of a mixed-use development to the north of Kayamandi would be feasible. In 2021 Zutari was appointed to undertake a broad conceptual urban design framework for the northern extension to guide the development framework and to obtain town planning (land use rights) and development rights. An earlier heritage scoping exercise informed the formulation of a concept and framework for development.

7 HISTORIC BACKGROUND

It is likely that there would have been early and middle stone age activity on the site given the evidence found of such activity in the larger Stellenbosch area. At the time of the establishment of the refreshment station at the Cape in 1652, the larger Eerste River valley would have formed part of the seasonal grazing of the Khoenkhoen. By 1679, when Stellenbosch was founded by Simon van der Stel, the Khoenkhoen were being displaced from their traditional grazing areas (Mountain, 2003). The first farm in this valley was granted in 1679, and between 1680 and 1691, 57 farms were granted in the area (Smuts, 1979, 68). The property in question comprises of portions of Farms 182 and 183, Stellenbosch. Farm 182, also known as De Watergangh was first granted to Pieter Coopman in 1694.

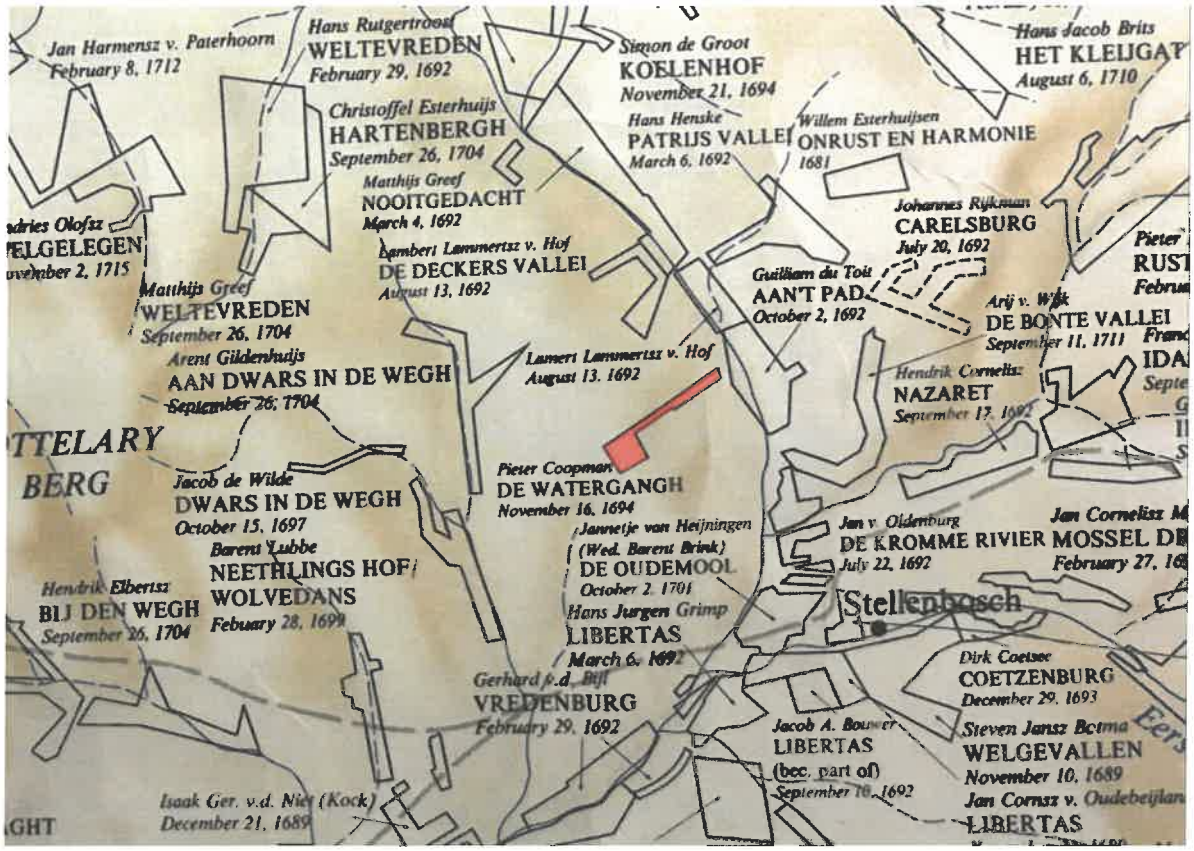


Figure 12: Extract from map of early freehold land grants to individuals, 1657-1750 (Source: Guelke, 1987)

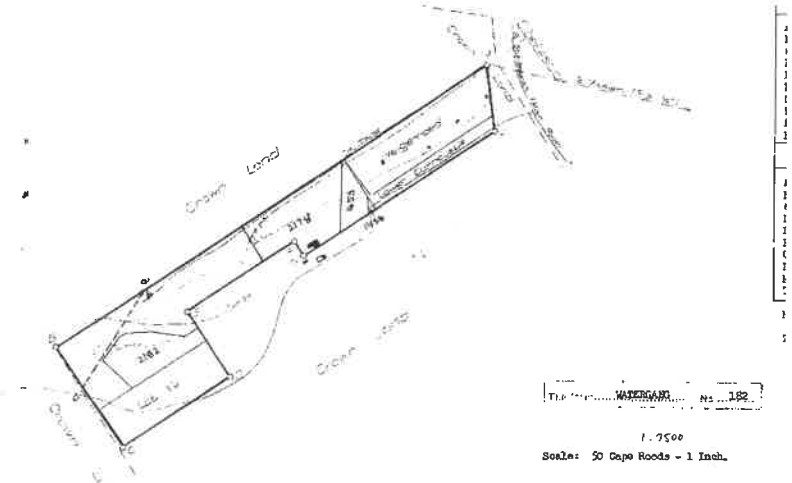


Figure 13: Extract from SG Diagram 45/1907 illustrating the original Farm 182, De Watergangh

Farm 183 is a much later grant that dates to 1908, when a large landholding, which included most of the Papegaaiberg and its slopes, including what is now Onder-Papegaaiberg and Khayamandi was granted to the Municipality of Stellenbosch. This grant excluded land portions that were encompassed by the property, such as the farm Middelvlei, De Watergangh and various cemeteries located on the southern slopes of the Papegaaiberg at the entrance to the suburb, Onder-Papegaaiberg.



Figure 14: Extract from SG Diagram 851/1907 showing the 1908 grant of Farm 183, Stellenbosch

The properties that constitute the study area, includes the Remainder of Farm 183, and portions 23, 36, 37 and 60 of this farm, as well as the Remainder of Portion 1 and Portion of the 1 of the Remainder of Farm 182. Over the years, numerous portions of Farm 183 were transferred to other

parties, including land sold to Stellenbosch Farmers' Winery for the Oude Libertas and Bergkelder precincts, land sold to increase the size of the farm Middelvlei, land needed for roads and the establishment of the townships of Onder-Papegaaiberg and Khayamandi. Portion 23 was originally a part of Portion 3, named Grootvlei, and sold to Jacobus Petrus De Wet in 1935. In 1962, portion 23 was transferred back to the Municipality by PA De Wet (presumably the son of JP). Portion 36 in turn has its origins in Portion 5, known as Louisenhof and transferred to Carl Frederick Herbert Scherer in 1938. In 1963 it was acquired by Wynand Stephanus Smit, who sold Portion 36 to the Municipality in 1974.

With regard to the Remainder of Farm 182, no records were kept in the farm register of Deeds Office, of the owners between the original grant to Koopman in 1694 and 1880. According to Smuts et al (1979: 354-355), De Watergang and Cloetesdal were acquired by Martin Melck in 1750, the year in which he was relieved from his service to the DEIC. Melck is described by Smuts et al (1979) as one of the most colourful characters in the Stellenbosch society of the second half of the 18th C. He was known as an industrious businessman and farmer who became wealthy through hard work and an advantagous marriage to the widow of the owner of Elsenburg in 1752. He built the homestead at Elsenburg in 1761 and later also the warehouse in Strand Street Cape Town that served as a church for Lutherans and survives to this day.

The farm register indicates that in 1880 Abraham Michiel Johannes Bosman transferred Farm 182 to Gillian Stephanus du Plessis. It would seem that the property was transferred back to Bosman in 1896, who subsequently sold off portions of the farm. Form 1918 onwards the property passed hands several times, until it was acquired by Carl Frederick Herbert Scherer in 1936. Stephanus Smit subsequently acquired this property in 1963. Smit also acquire the remainder of Portion 1 as well as Portions 2 & 3 in this year. Portions 2 and 3 were later sold to Luigi Costa, at one stage the owner of the adjacent Cloetesdal. In 2019 the Stellenbosch Municipality, acquired the portions of Watergang from the WS Smit Watergang Trust, after the tragic death of Stephanus Smit.

8 HERITAGE RESOURCES AND SIGNIFICANCE

8.1 Introduction

Section 2 (xvi) of the NHRA defines a *heritage resource* as: "any place or object of cultural significance". The heritage significance of a site is established by considering a number of aspects of potential heritage value. These are (in no particular order):

8.2 Architectural value

The only buildings identified on the site are shown below as the beacon and cell phone mast at the crest of the site and the Louisenhof cellar with outbuildings right at the bottom of the eastern slope. None of these buildings are historic and do not have architectural value.

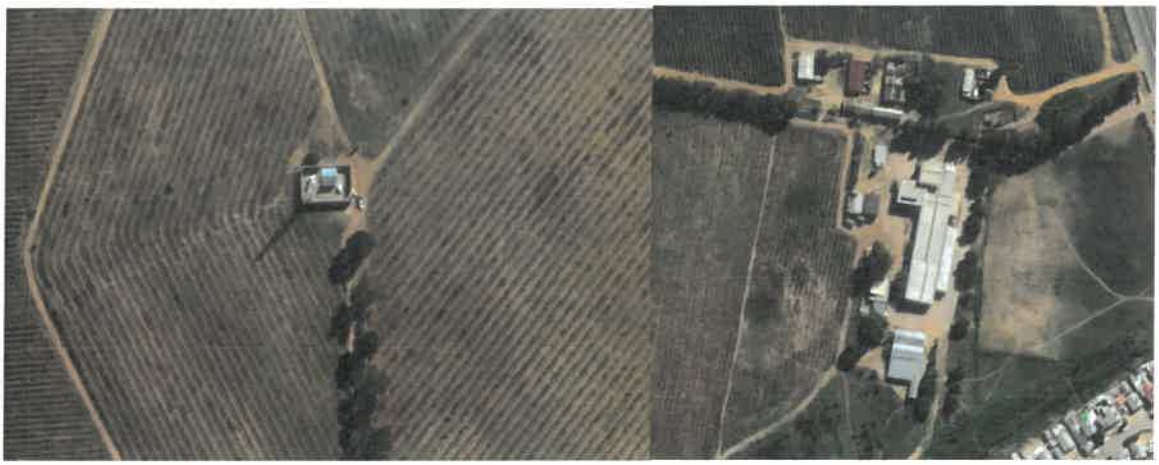


Figure 15: Aerial images of the buildings on site.





Figure 16: Cell phone mast and beacon at the highest point of the site





Figure 17: Cellar and outbuildings at lower end of site







Figure 18: Cellar and outbuildings at lower end of site

8.3 Historical value

Although Farm 182 was one of the early land grants in Stellenbosch, there are no traces of this early settlement of the land visible on the site. Although Melck, who owned De Watergang (together with Cloetesdal) in mid 1700s, was an important historic figure in Stellenbosch, the werf and homestead of Cloetesdal farm was located to the east of the Plankenbrug River on Cloetesdal Proper. There are no indications that there has ever been a homestead on De Watergang. Thus, there is no tangible evidence of the association with Melck remaining on the property, who is in any case more closely associated with Elsenburg and the Lutheran warehouse in Strand Street Cape Town. Farm 183 is a later grant to the Municipality, probably

intended for the expansion of the settlement, recreation and conservation seeing that it included the whole of the Papegaaiberg (which is closely associated with Simon van der Stel) but there are also no tangible remains evident of the early history of the remaining portions this land grant.

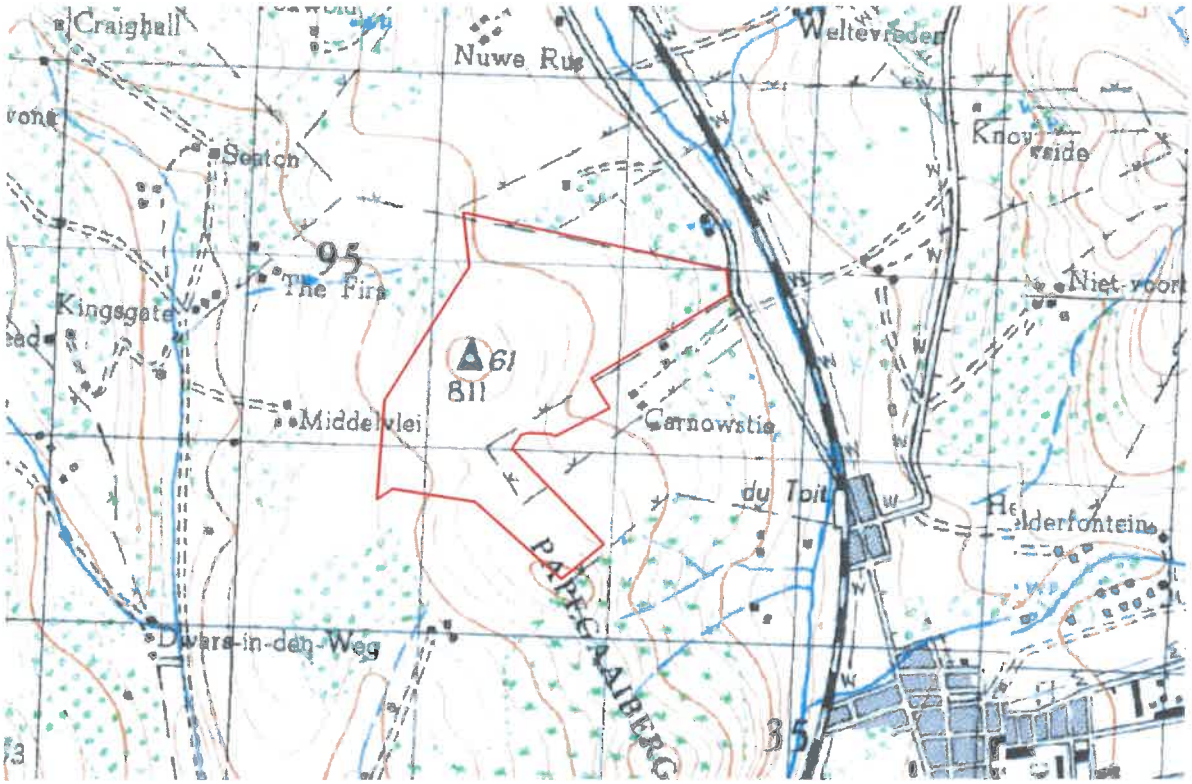


Figure 19: The location of the site in relation to the 1935 topocadastral map of the area.

8.4 Spiritual, linguistic & scientific value

There is no evidence to suggest that the site has any spiritual, linguistic, or scientific value.

8.5 Archaeological value

As required by HWC, an archaeological impact assessment was undertaken by Jonathan Kaplan in July 2023. The complete report is attached to this submission in Annexure B.

Kaplan found a few isolated, Early Stone Age (ESA) implements (chunks, flakes & irregular cores) on the steep, terraced slopes, and fallow agricultural land across the western portion of the site. No formal tools such as hand axes, cleavers of large cutting tools were found. No evidence of any human settlement or occupation was encountered, suggesting that the tools comprise mostly discarded flake debris. All the tools were found in a degraded and transformed context.

In conclusion Kaplan finds that the small number, isolated and transformed context in which they were found means that the archaeological resources have been graded as having *low* significance, and *not conservation worthy* (NCW).

8.6 Contextual significance

Broadly considered, the site is located within the Cape Winelands, an area of high scenic, cultural, and historical significance, identified as a 'cultural landscape'; i.e., a place layered with history that evidences the artefacts of human activity over time, constituting meaningful visual, spatial, scenic, and aesthetic heritage resources which are valued by communities of people.

The Cape Winelands is characterized by the interplay of patterns of 'urban' townscape, 'rural' landscape, and mountain 'wildernesses.

8.6.1 Identified heritage resources in the vicinity of the site

The contextual significance of the site is mainly related to its visible location in a rural landscape which includes both the Plankenburg and Devon Valleys. As noted earlier a portion of the site is located in an area of early colonial settlement, but very few of the historic werfs to the west of the Plankenbrug River have survived. Figure 20 below from the Stellenbosch Heritage Inventory (2018) indicates the graded heritage resources in the vicinity of the site. On the Devon Valley side, Le Jardin Villa to the north-west of the site is graded a Grade II resource because of its high degree of architectural significance as one of the finest examples of a Cape Revival house within the winelands. The building is currently used for luxury accommodation. The Firs Cottages, although modest, reveal the working community within the area and therefore identified as Grade IIIc with strong historical and social significance. Middelvlei to the south of the site is graded IIIb due to its significance as an example of a Victorian era farm werf within the Stellenbosch area. Along the R304 to the north of the site, there is a series of werfs dating to the early 20th century (1930s to 1950s) situated mid-slope on the eastern side of the Bottelary Hills overlooking the road and valley to the east. Monterosso, closest to the site, has been graded IIIb and the other IIIc. Resources identified in Kayamandi closest to the south of the site include a series of typical free-standing houses dating to the 1940-50s and landmark café, possibly dating to the 1960s – these resources are regarded as having high social, community and associational value.

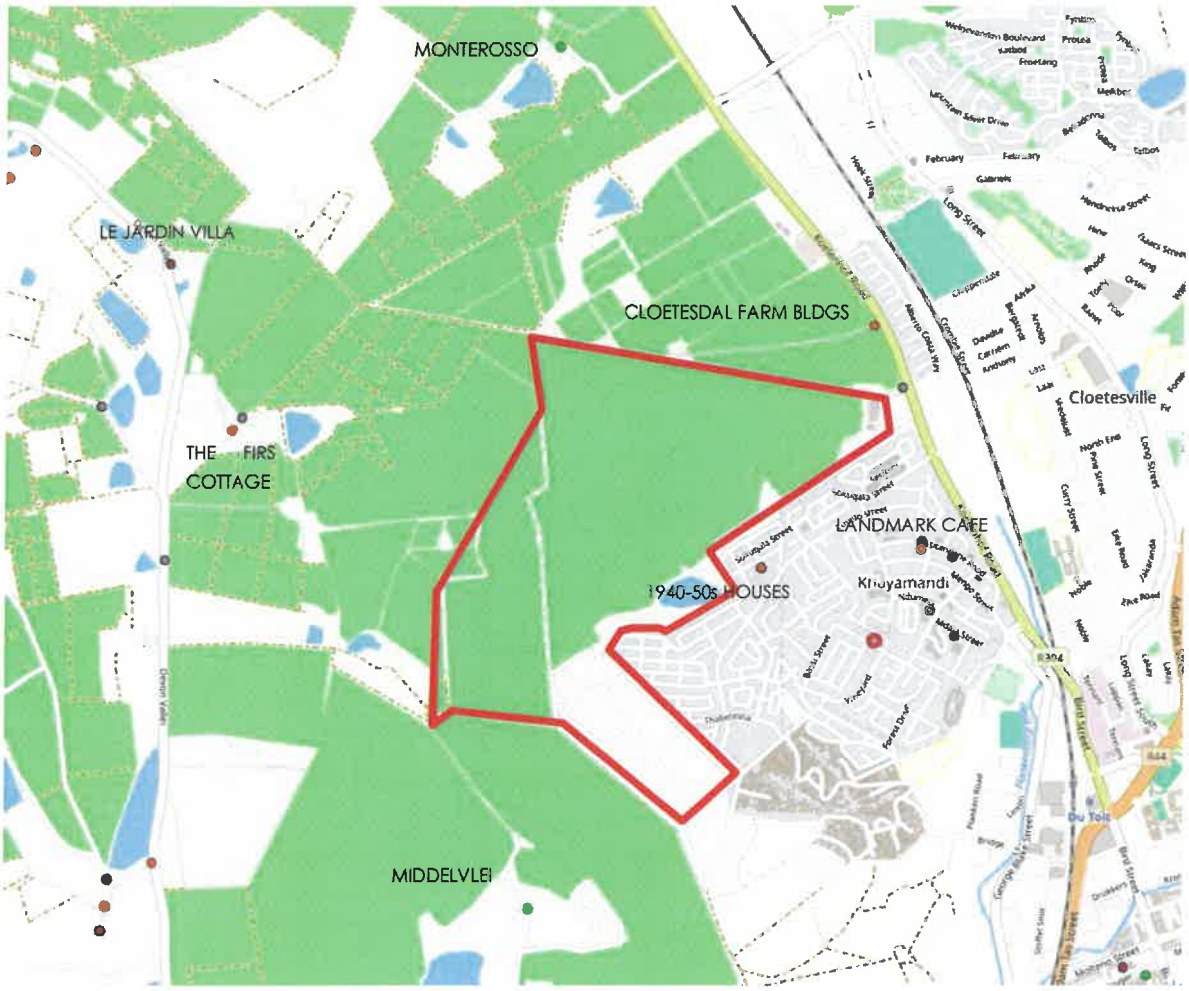


Figure 20: Extract: Stellenbosch Heritage Inventory Online Map with heritage resources layer enabled (Source: http://stellenboschheritage.co.za/smhs/map/#15/-33.9180/18.8377 accessed 24/09/21)

8.6.2 Identified landscape value

In addition to the individual heritage resources identified in the Stellenbosch Heritage Inventory, this inventory has also identified and classified landscapes in terms of heritage significance. The site falls within the Bottelary Devon Valley Area, which in turn is divided into three large characters areas.

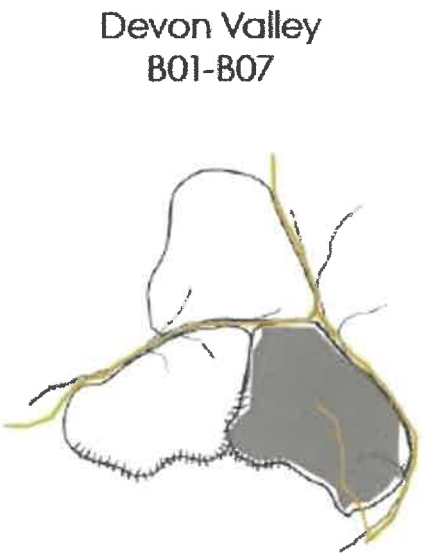
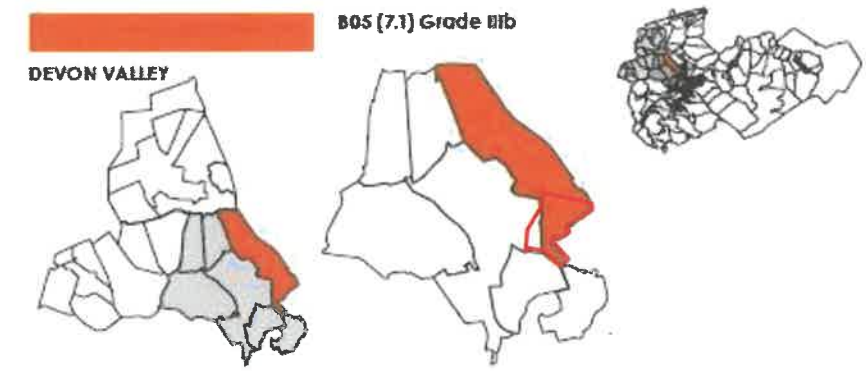


Figure 21: The character areas of the Bottelary Hills area – the site falls within the Devon Valley area - shaded on the diagram.

The larger character area is called Devon Valley and thus is largely concerned with the valley located beyond the ridgeline to the west of the site. The site straddles units B03, which runs along the west facing slope of the Devon Valley and B05, a long strip of land abutting the R304, both graded as IIIb.



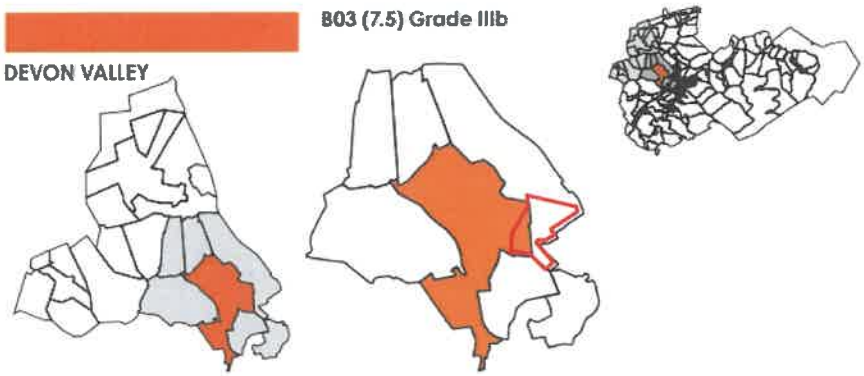


Figure 22: Location of land units B03 and B05 as per the Stellenbosch Heritage Inventory 2018.

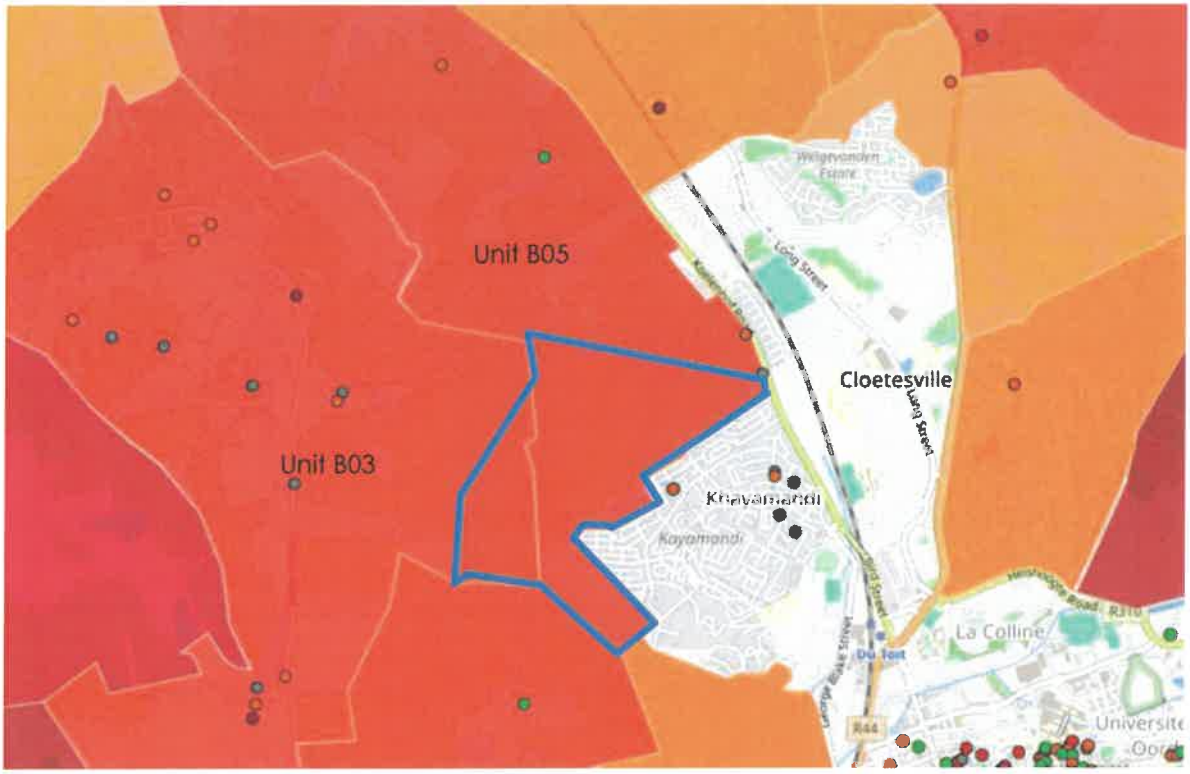


Figure 23: Extract: Stellenbosch Heritage Inventory Online Map with heritage resources and landscape units layers enabled (Source: http://stellenboschheritage.co.za/smhs/map/#15/-33.9180/18.8377 accessed 24/09/21)

The bulk of this site falls in Unit B05 - this landscape is judged to have aesthetic and economic value, and as such it is noted that the open character of the agrarian landscape should be enhanced. Mention is made of the series of 1930-50s farm werfs set back from the R304, referred to above, as significant in that it signifies the influx and investment in wine farming around that time. Although it is stated that lower slopes "revealed" a series of early freehold grants along the entire length of the R304, almost all of these early grants fall in the land unit to the west, as they were granted along the Plankenbrug River. The landscape unit is graded as IIIb, mostly attributed to its high economic ranking, with high agricultural value and tourism potential.

Unit B03 is also judged to have aesthetic and economic value. Despite recent unsympathetic development, the valley is described remaining one of the most romantic valleys in the winelands. The early grants in this valley are located on the western side of the Devon Valley Road. According to the study, the valley has significance for its capacity to absorb new development in a way that retains a scenic, balanced, textured landscape, and therefore has aesthetic significance with a high level of resilience. Its IIIb grading is largely attributed to its aesthetic value.

Following on the assessment of the land unit, the implications for heritage management are illustrated by the conservation systems layers. The site falls within a green transition zone. In these zones, almost all forms of urban development, particularly mono-functional security estates and gated communities should be avoided according to the inventory. It would seem that urban development could be considered where integrated planning ideals are pursued. The R304 is

not indicated as a scenic route. However, Devon Valley Road to the west of the site is identified as a scenic route. As part of the inventory the site in question was not considered as one of the landscape units featuring protected areas and more than 70% visibility coverage from Grade II scenic routes (see Figure 25).

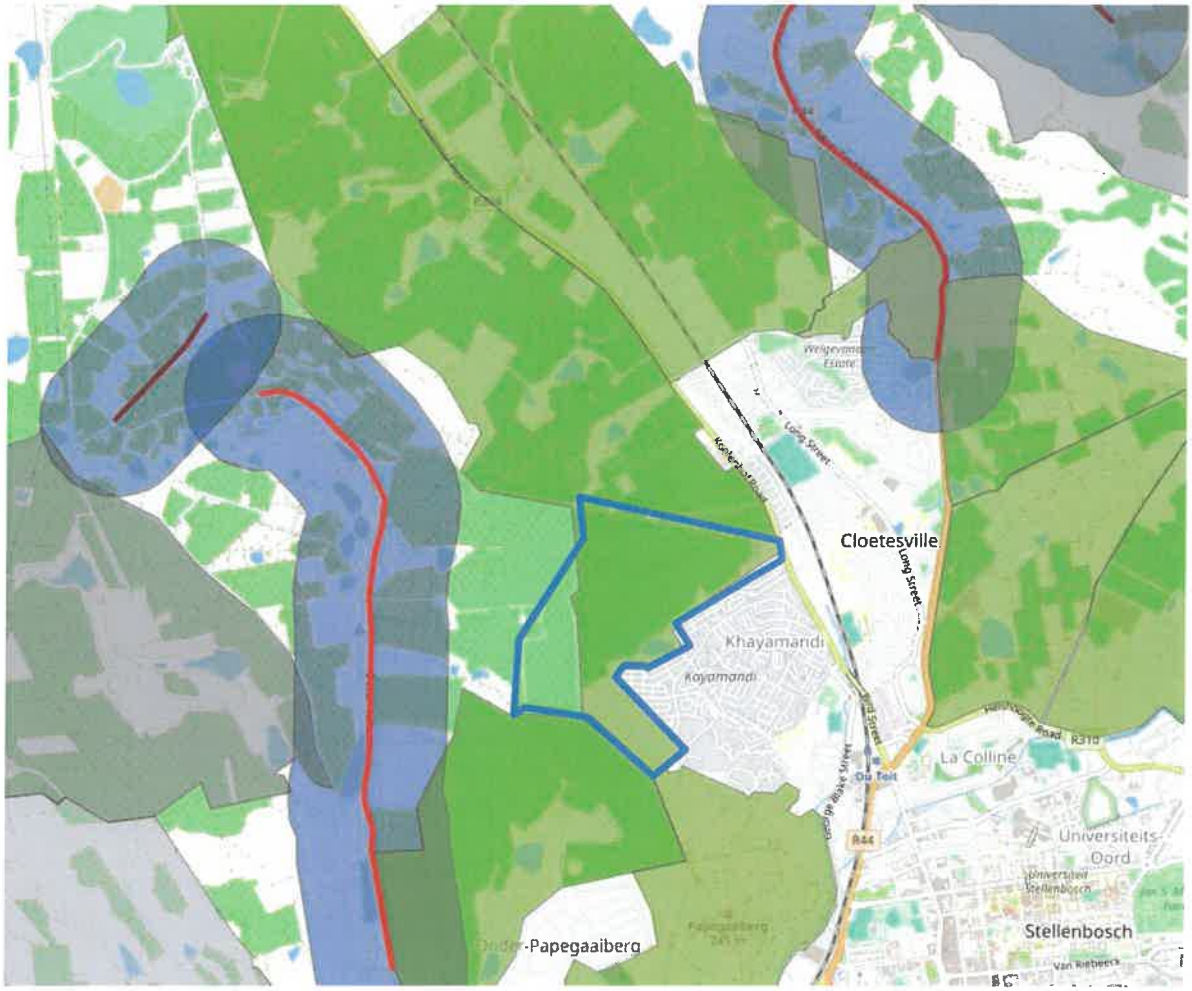


Figure 24: Extract Stellenbosch Heritage Inventory Online Map with conservation systems and scenic route layers enabed, showing the position of the site to the east of the Devon Valley Scenic Route although not directly abutting. (Source: [http://stellenboschheritage.co.za/smhs/map/#15/-33.9180/18.8377 - accessed 24/09/21](http://stellenboschheritage.co.za/smhs/map/#15/-33.9180/18.8377))

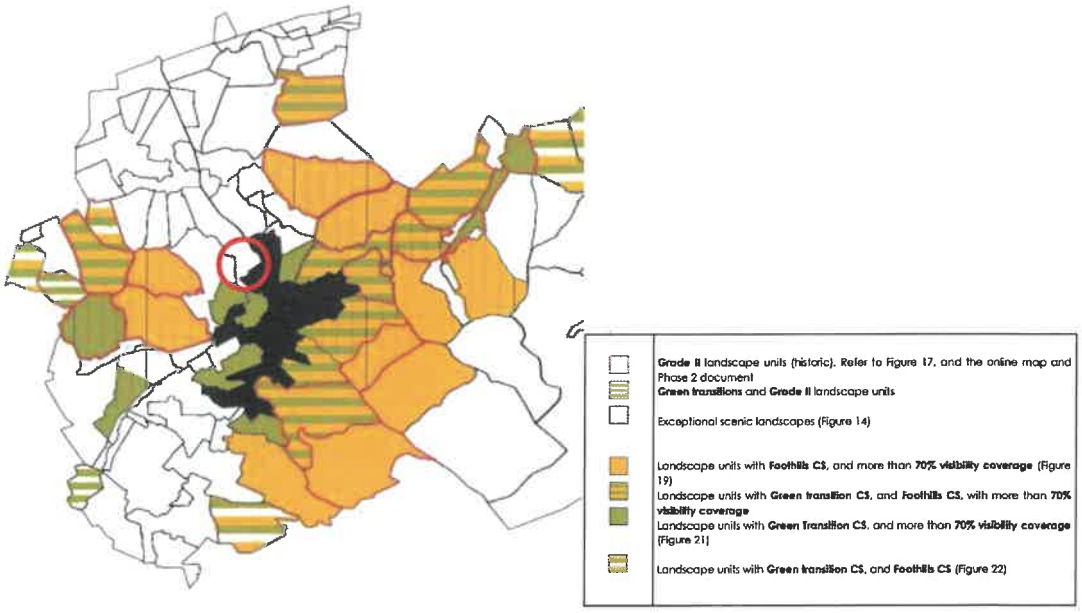


Figure 25: The location of the site in relation to the Composite Synthesis Map of all Conservation Systems as part of SM Heritage Inventory, Appendix 3.

8.6.3 Cultural landscape analysis

The visual specialist has undertaken a comprehensive analysis of the site in the context of the larger cultural landscape. This approach offers a holistic vision for understanding and interpreting whole environments, considering human settlement needs within ecological carrying capacities and spatial qualities to ensure that interventions are located firmly within their contexts. Cultural landscapes provide a sense of place and identity, mapping human relationships with land over time. They are narratives of cultures, and expressions of regional identity, constituting visual amenity heritage resources. Recognizing dynamic quality of cultural landscapes in that places do change over time and that development is at times necessary (and even desirable) for the continued vitality of place; it is important to identify, protect, enhance, and integrate visual qualities which contribute significant value to the character of landscape and lend meaning to the interpretation of place, as visual indicators for appropriate design response.

8.6.4 Visual context

The series of diagrams that follow illustrate the visual context of the site.

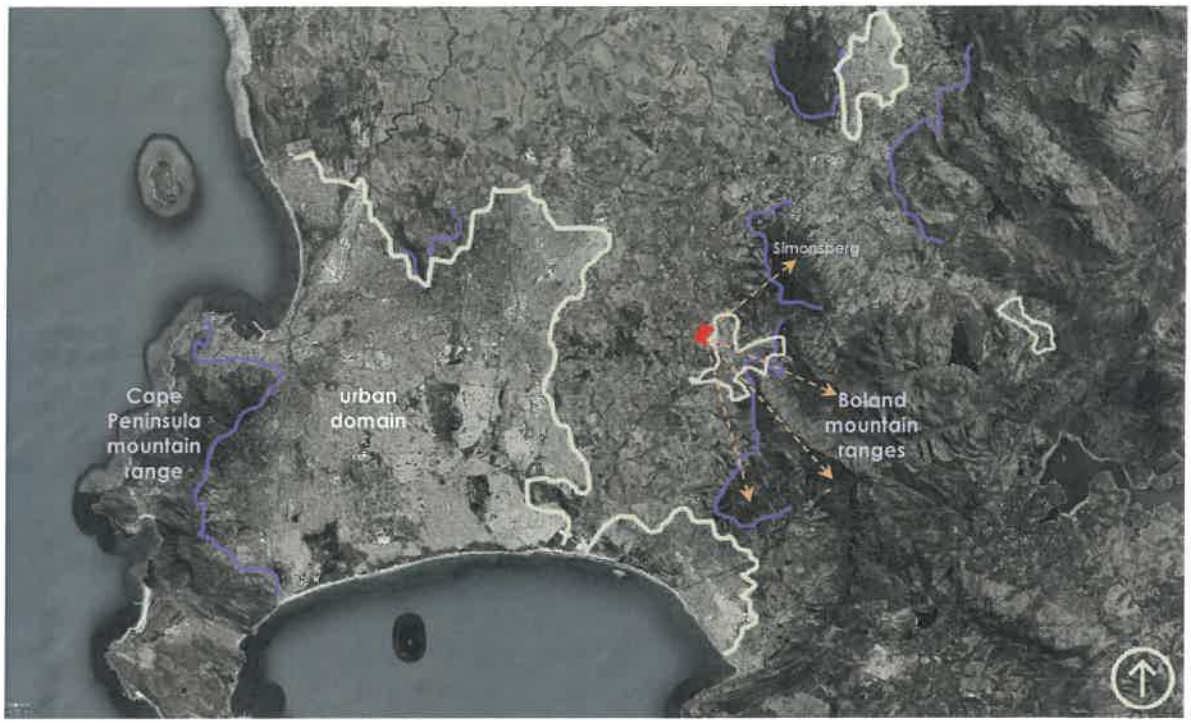


Figure 26: Regional Context showing proximity of site to Boland Mountains (Source: GEPro)

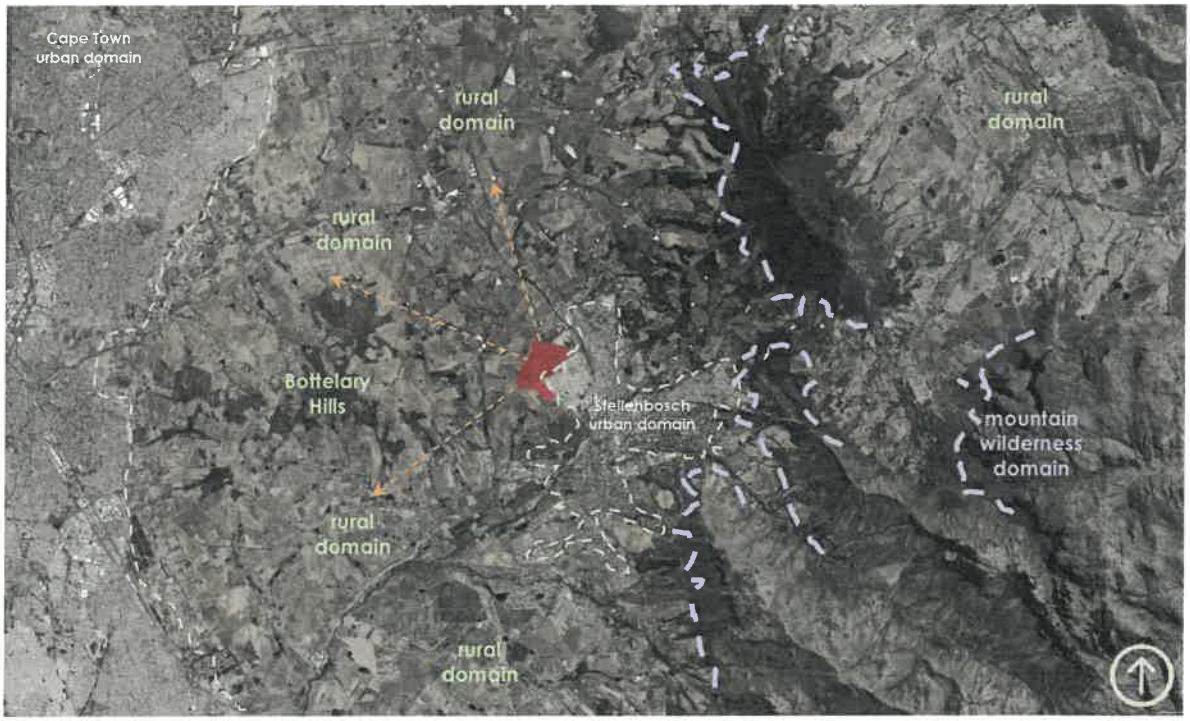


Figure 27: Local Context, showing relationship to rural and urban domains.(Source: GEPro)



Figure 28: Site Context showing immediate adjacencies. (Source: GE Pro)

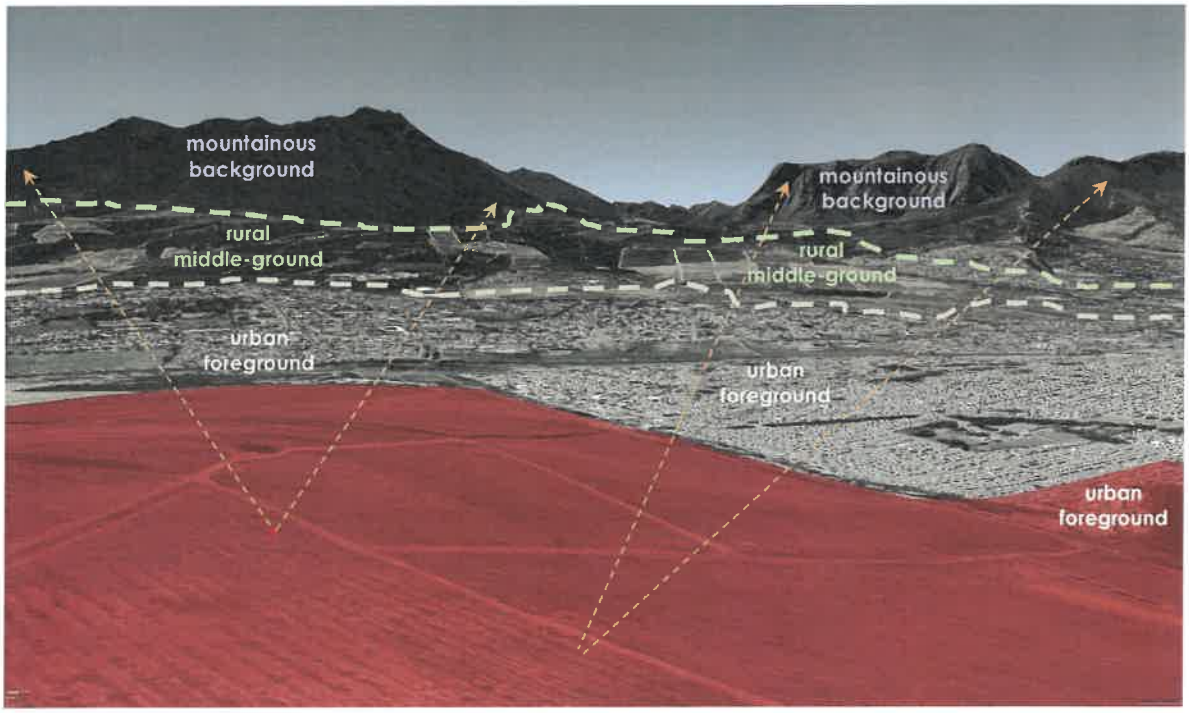


Figure 29: Aerial perspective showing aspect looking east. (Source: GEPro)

8.6.5 Cultural Landscape Context



Figure 30: Northern Extension UDF in context.(Source: Zutari & GEPro)

The site lies at the northern extent of Stellenbosch, at the interface between the urban and rural domains, with strong east orientation towards the mountain wilderness domain. At the urban periphery it is a landscape in transition, an anthropogenic environment in which agricultural properties are undergoing transformation through urban development. Much of the indigenous vegetation has already given way to farming. Due to its location and elevation, the site enjoys direct views eastwards to the Boland mountains, which rise dramatically and lend a sense of place and orientation to the site. Currently the site feels more connected to the surrounding rural domain than to the urban. Directly to the north, the approved 'Newinbosch' urban development is already under construction.

8.6.6 Topography and landform

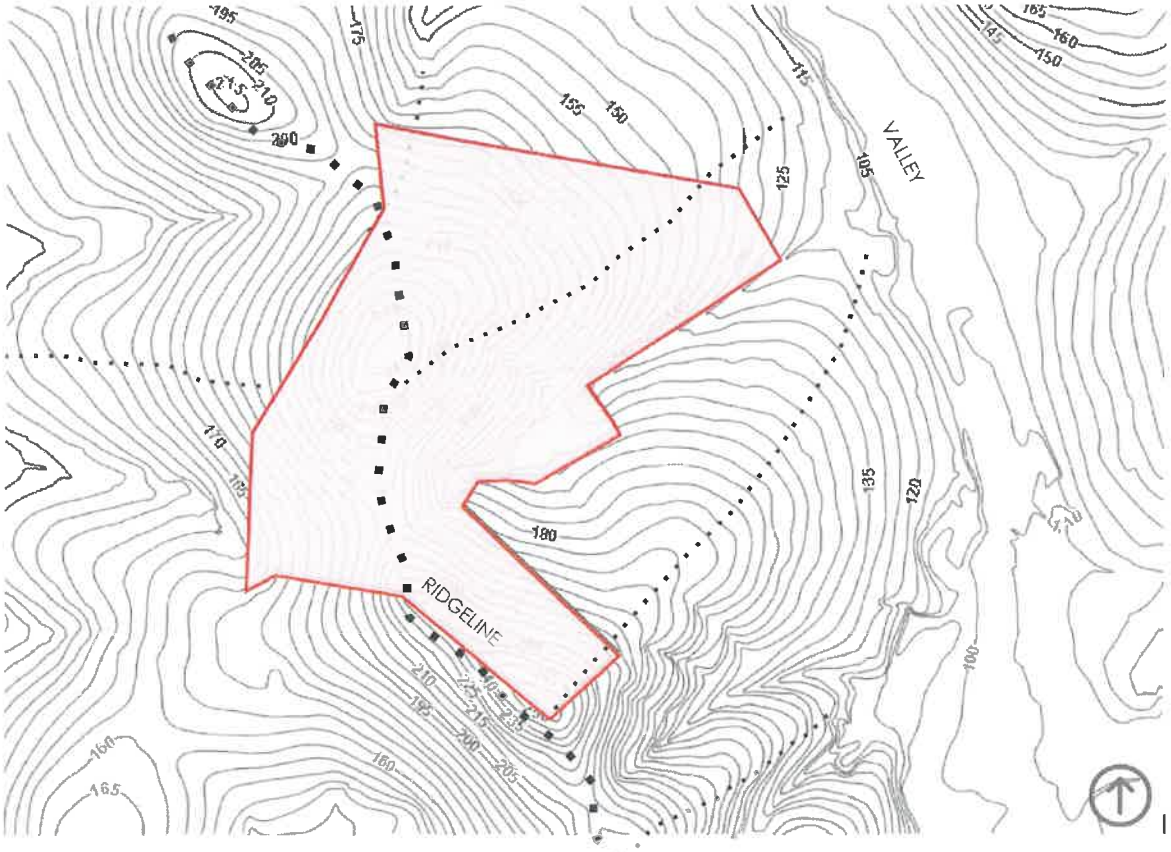


Figure 31: Contours at 5m intervals. Primary ridgeline shown. (Source: Cape Farm Mapper)

The 5m contour diagram reveals the topography and landform of an undulated and folded landscape within the eastern slopes of the Bottelary Hills. A local ridgeline transects the site with an alignment running roughly north-northwest to south-southeast. Minor ridgelines fold the site in on itself, reducing the visual exposure. Apart from the portions to the west of the ridgeline, the site slopes generally to the east, orientated towards Simonsberg and the Stellenbosch mountains.

Using the language of Christian Norberg-Schultz (towards a Phenomenology of Place), this is a 'romantic' or 'land-dominated' landscape.

8.6.7 Aspect and Orientation

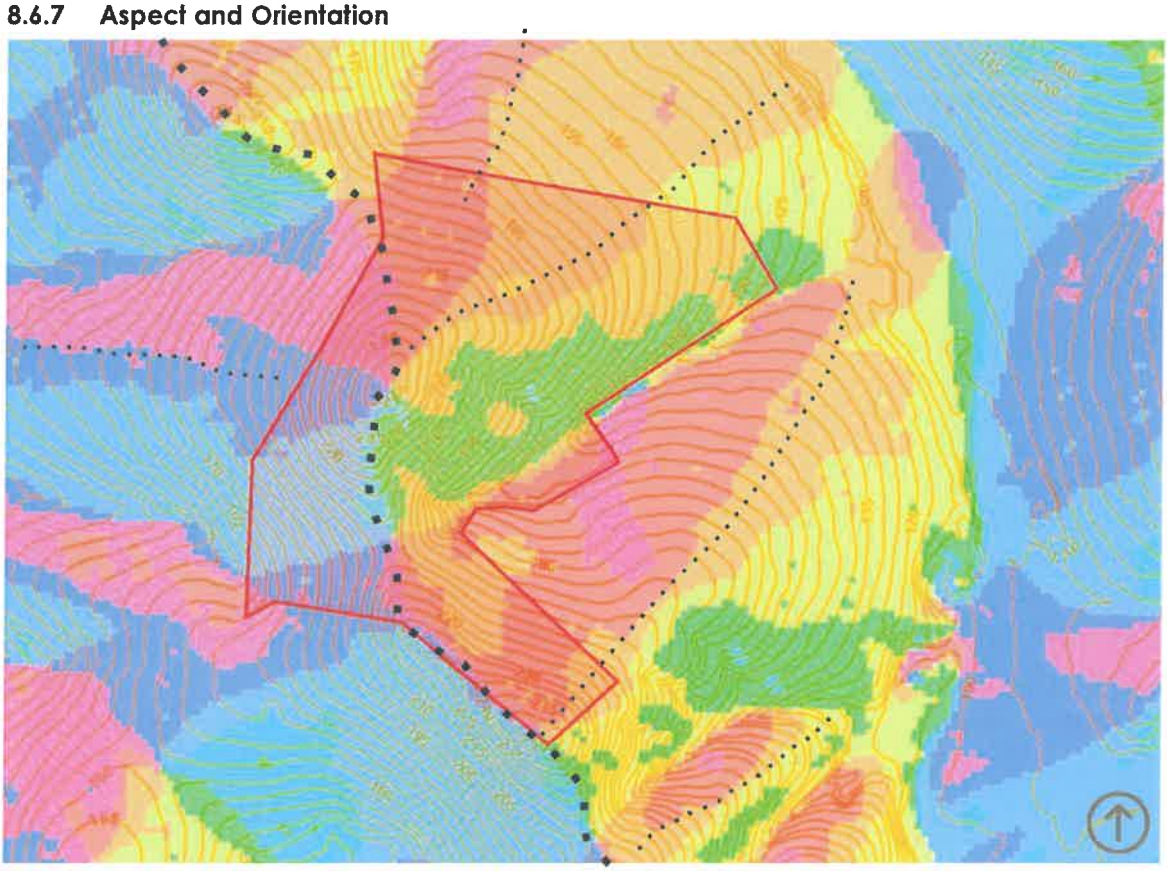
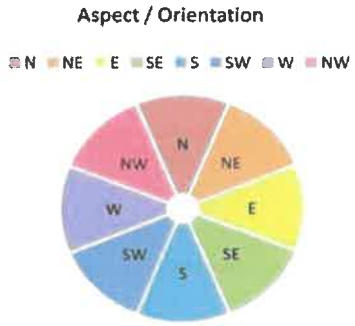


Figure 32: Solar orientation: (Source: Cape Farm Mapper)

The western portions of the site are orientated variously north-west, west (hotter slopes), south-west, and south (cooler slopes); whereas east of the primary ridgeline the site is orientated more favourably from north to north-east (warmer slopes), with the central portion orientated towards the south-east (slightly cooler).



8.6.8 Hydrology and drainage

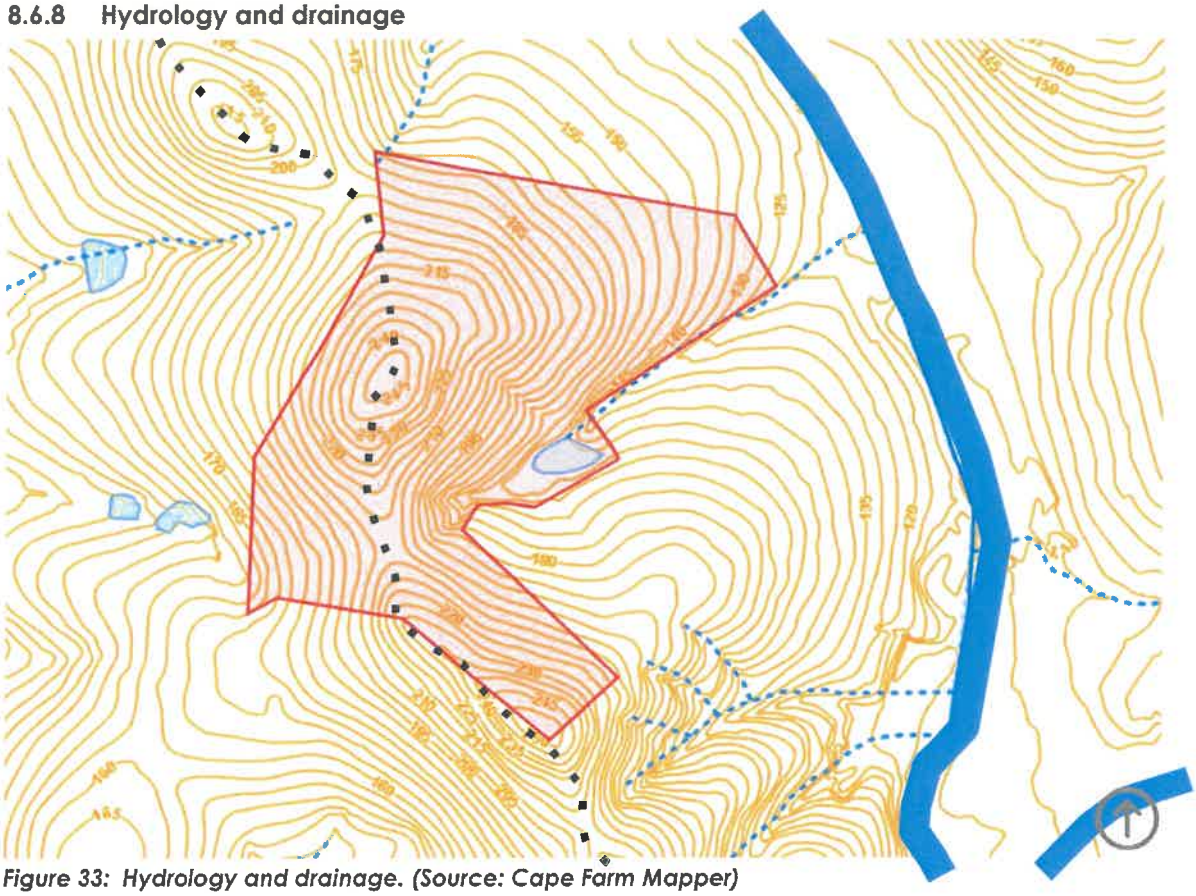


Figure 33: Hydrology and drainage. (Source: Cape Farm Mapper)

The Plankenbrug River forms the primary drainage system within this environment and flows generally southwards, east of the site. The site is bounded by a minor valley on its north-eastern border, which forms an agricultural dam in its upper reaches. From here it drains towards the northeast and forms a tributary of the Plankenbrug River. This in turn flows into the Kromme River, and later joins the Jonkershoek River ultimately to form the Eerste River.

8.6.9 Slope curvature

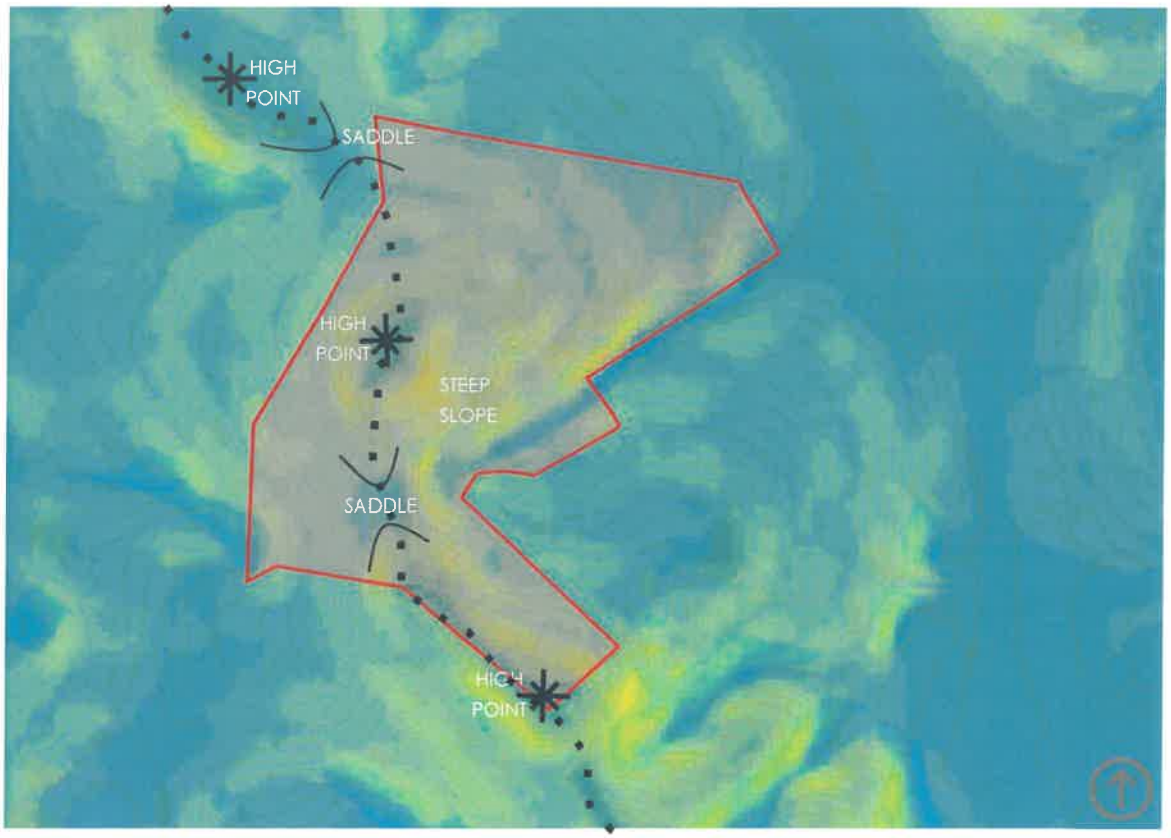


Figure 34: Slope curvature. (Source: Cape Farm Mapper)

The north-eastern portions of the site slope gently with a slightly convex form to a high point along the primary ridgeline. Immediately to the southeast of this high point is a section of steeper slopes with slightly concave form. The primary local ridgeline connects three high points separated by two saddles. This ridgeline forms the primary view-shed, dividing the site into two view catchments: agricultural to the west and more urban towards the east.

8.6.10 Settlement patterns and built form

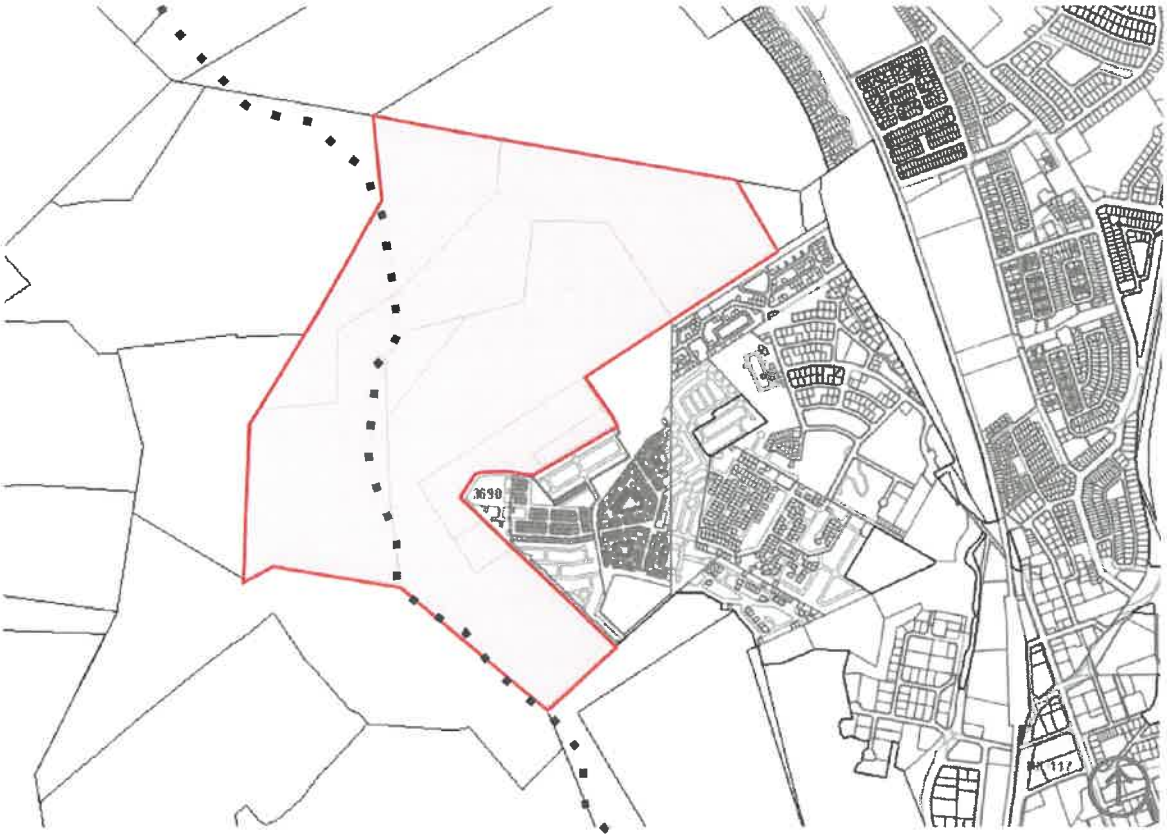


Figure 35: Cadastral Patterns: Farm portions, Erven, street parcels. (Source: Cape Farm Mapper)

The site is located at the urban periphery, within the urban edge, at the interface between urban development and agriculture. The cadastral patterns diagram indicates the finer gain of the urban erven, contrasted against the larger agricultural farm properties. The pattern reflects that areas of land which are more gently sloped at lower elevations tend to become urbanized before the mid and upper slopes, which require more engineering. But these areas are also subject to land invasion and most of Kayamandi's current informal settlement are situated up against the southern slopes created by the hills and valleys in the landscape. As a result, the southern portion of the site is already urbanized with informal development whereas the remainder still retains the geometric patterns of its agricultural past, closely associated with the Cape Winelands cultural landscape. Urban development is not proposed for the portion of the site west of the local ridgeline, which means that the continuity of the rural landscape will remain intact when viewing from within the western view catchment.

The eastern portions of the site will become continuous with the existing urban grain when viewed from the eastern view catchment.

8.6.11 Cultural landscape patterns and vegetation cover



Figure 36: Cultural landscape patterns

The cultural landscape is composed of overlaid patterns – of vegetation as well as settlement in a continuum of domains from the 'urban' through the 'rural,' to the 'wilderness,' depending on the degree of human modification of the landscape though habitation and use, with the urban being most modified and the wilderness being least modified. Seasonal variation in response to alternate dry and wet seasons produces a dynamic quality to landscape, in which the intensity of green either fades or becomes more vivid; in which certain plant species (for example bulb and geophytes) either flower or remain invisible. Similarly (within agricultural environments), fields newly sown or lying fallow contrast with those steadily growing or approaching harvest.

The diagram indicates the linear elements formed by riparian corridors (vegetation which has intensified along drainage courses and river valleys, where access to water is greatest) as well as wind-break hedgerows, tree avenues and werf clusters. The landscape contains a few linear windbreak avenues across the site or along boundaries of the site, as well as a cluster of trees and shrubs along the drainage line on the southern boundary to Kayamandi. The patterns of field, vineyards and orchards lend texture and grain to the cultural landscape. These patterns tend to be geometric and rectilinear, reflecting farming efficiencies, apart from where the edges become more organic in response to river corridors, ridges, and drainage lines. There are parent portions (evidenced by more continuous straight lines) which have been sub-divided into smaller farm portions. Also evident is the manner in which primary alignments gesture downslope towards the river valley and in places radiate around hill tops.

In summary the diagram reflects a fairly open and visually exposed agricultural landscape, in which linear rows of trees forming avenues leading up to nodal points or as windbreaks at the

edges of farm fields are more typical than clustered groups of trees at farm werfs. At a more detailed level, the texture of the landscape would be revealed as a product of parallel rows of vineyard and orchards of vegetation, although these are not as prominent anymore due to the fact that the vineyards are not maintained any longer and many of the vines have been removed for use as firewood.

As evidenced, the site lies within a context that is highly transformed through historic and recent agricultural activity, as well as new urban development immediately to the north ('Newinbosch'), and informal urban development on its southern portion as an extension of Kayamandi.

As a result, the visual sensitivity to development of the immediate context is low to moderate, with views from the site towards the mountains to the east more important than views onto the site from adjacent properties.

8.6.12 Landscape Character

Within a broader cultural landscape continuum, the landscape character of the site can be described as an anthropic rural environment in transition. The site is visually oriented towards the Simonsberg and Stellenbosch Mountains which provide a wilderness backdrop to an urban foreground. Currently the site retains a rural character, despite its location within the urban edge, by virtue of the perceived association with the surrounding agricultural landscape.

8.7 Visual analysis

In accordance with HWC's request for an assessment of visual impacts, an analysis of the visual issues and sensitivity of the site has been undertaken by David Gibbs, with a view to informing the formulation of design indicators for the development of the property.

8.7.1 Landscape Sensitivity

The landscape sensitivity to visual impact is considered to be low to moderate for both the site and its immediate context, given the transitional nature of the urban periphery. The surrounding landscape has been highly transformed through farming, and urban development.

8.7.2 Visibility

Visibility is dependent on factors such as:(a) the **nature** of the proposal; (b) its **placement** within the landscape; (c) the **scale** of the proposal relative to its context; (d) the detailed design (**form**, **massing**, **aggregation**, as well as (e) the **position** and viewing **distance**. The net effect of these factors is that (at grade) the visual impact of an object will begin to fall away rapidly with increasing distance. Visibility will reduce from 1.5 km distance, and beyond 5 km, visibility is negligible. The folded and undulated character of the landscape also means that views are variously obscured and revealed as the viewer passes through space.

The digital 'View Catchment' diagram calculates visibility with respect to topography (i.e., landform) only; whereas the screening effects of surface texture included within LIDAR data (if available) e.g., existing buildings and trees overlaid onto the contour information would give a more precise view and reduce the footprint of the view catchment. Theoretically, all areas shaded green in the view catchment figure have direct views towards the site. Many of these areas are located within the uninhabited mountain forests, and those located within the urban

areas are generally at a distance from the site. From the immediate context, the eye is drawn past the site to the mountains beyond.

Visibility tends to decrease in direct proportion to increase in distance as individual elements occupy smaller and smaller percentages of the overall field-of-view and become less visually dominant. Whereas the site (and proposed development within its boundaries) is and will be visible to its immediate context, when perceived from much of the view catchment area externally, it forms only a small portion of the field of view, and at a considerable distance.

At distances greater than 5km, visibility decreases significantly, as follows:

- ***5km radius*** = *average clear visual distance to horizon for eye-level (1,7m above ground) The site occupies only a small percentage of the field of view at this distance.*
- ***10km radius*** = *possible clear visual distance, given atmospheric dust, vapour, particles. At this distance, the site is barely perceptible within the townscape context.*
- ***20km radius*** = *maximum clear visual distance, given atmospheric dust, vapour, particles. At this distance, the site, and any visual change upon it is negligible, given the scale*

foreground		middle distance		background		Context	
on site	*adjacent*	*near*	*medium*	*long*	*distant*	*far*	*very far*
Highly visible	Within 250m	250m – 500m	500m – 1km	1km – 2km	2km – 4km	4km – 5km	barely visible

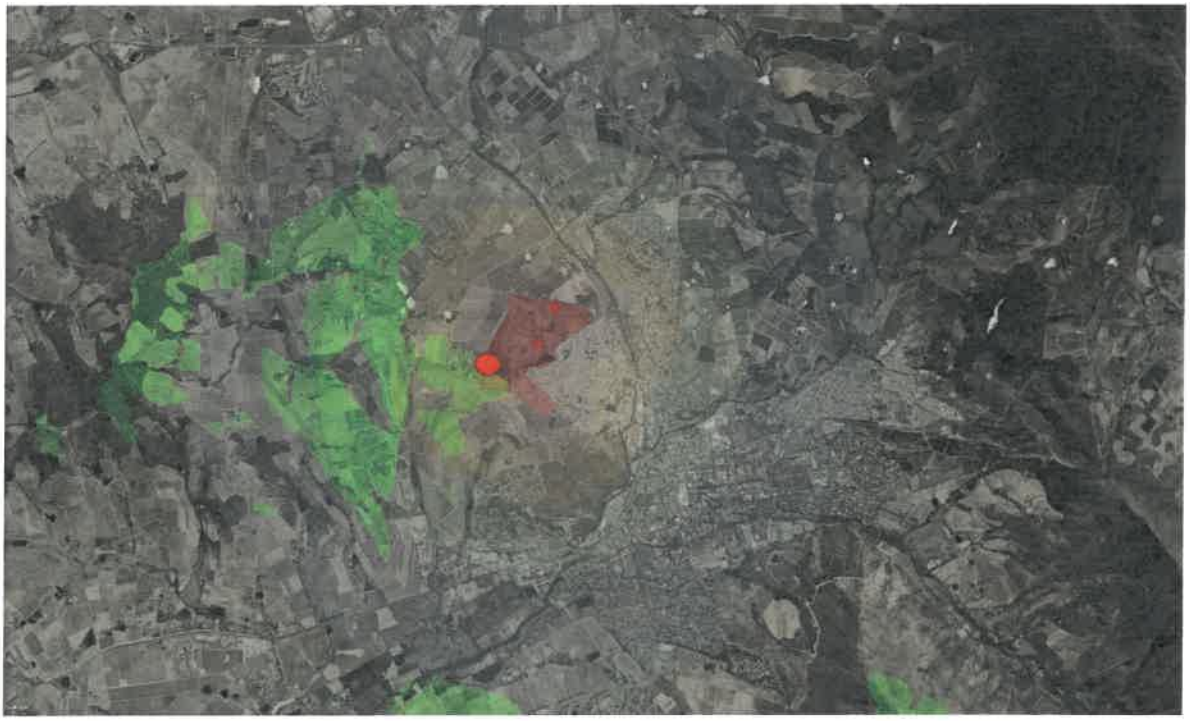


Figure 37: View catchment diagrams: western portion of the site. (Source: GEPro).

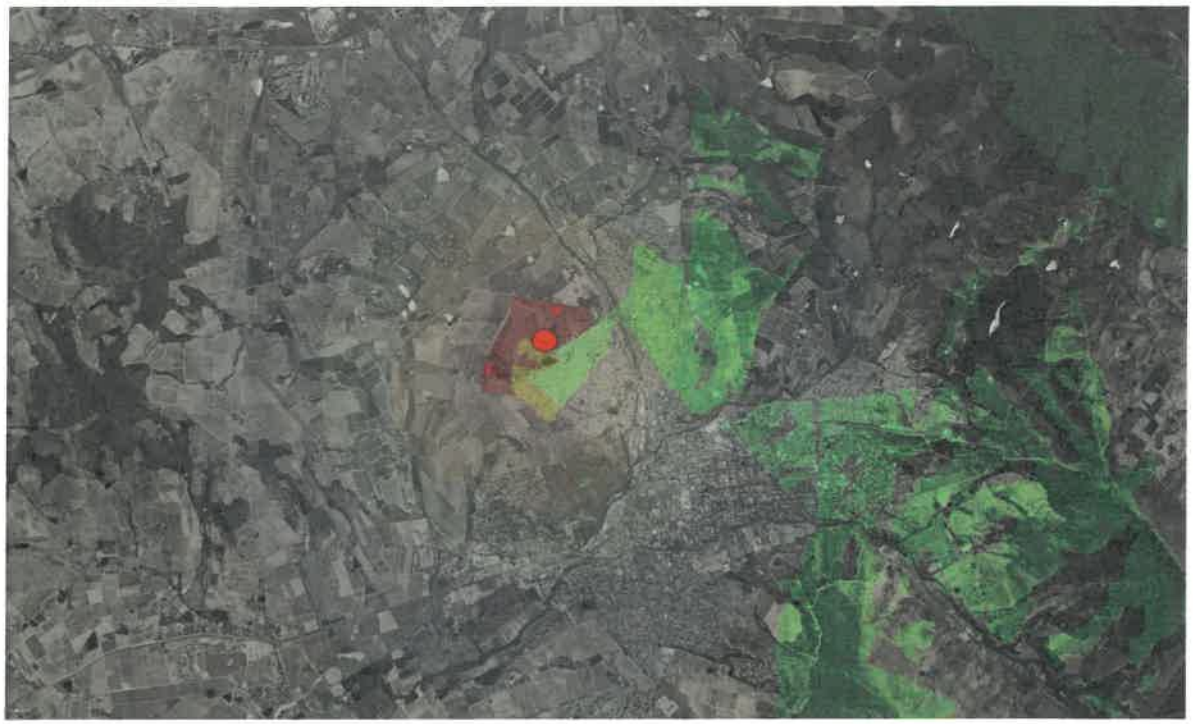


Figure 38: View catchment diagram: eastern portion of the site. (Source: GEPro)

With respect to the diagrams above, the local ridgeline running through the site means that the western portion of the site is not visible from the east, and likewise, the eastern portion of the site is not visible from the west. This divides the site into two view catchments: a western, agricultural view catchment and an eastern, urban view catchment.

When travelling on the R304 towards Stellenbosch, the steep western portion of the site is visible from just beyond the entrance to Nooitgedacht, but this view is obscured for short sections by dense planting immediately adjacent to the R304, such as Steyn's Nursery. The lower portion of the site, abutting Cloetesdal is completely screened by the treeline on the boundary between these properties. The experience of the agricultural landscape, when getting closer to the site, has been somewhat compromised by the recent high density urban development to the east of the R304, unmitigated by planting with visibility exacerbated by uniformity of form and finishes.



Figure 39: The section of the R304 from which the site will be visible, noting that at some points it will be screened by planting adjacent to the road (Source: Cape Farm Mapper).



Figure 41: View onto the site form opposite the entrance to Monterosso (just past Kana small holding) – the yellow line shows the portion of the site that could be visible from the R304



Figure 40: The frontage of the site on the R304 (Source: Google Streetview).

When approaching from the south, views onto the site is largely shielded by urban development and only a small portion of the site fronts onto the R304. Views are largely dominated by the Louisenhof entrance gates and wine cellar. The site will also be visible from urban areas across the valley, such as Cloetesville, Welgevonden and the new highly visible Weltevreden Hills Estate.



Figure 42: Section of the Devon Valley road from where the western portion of the site is visible (Source: Cape Farm Mapper).

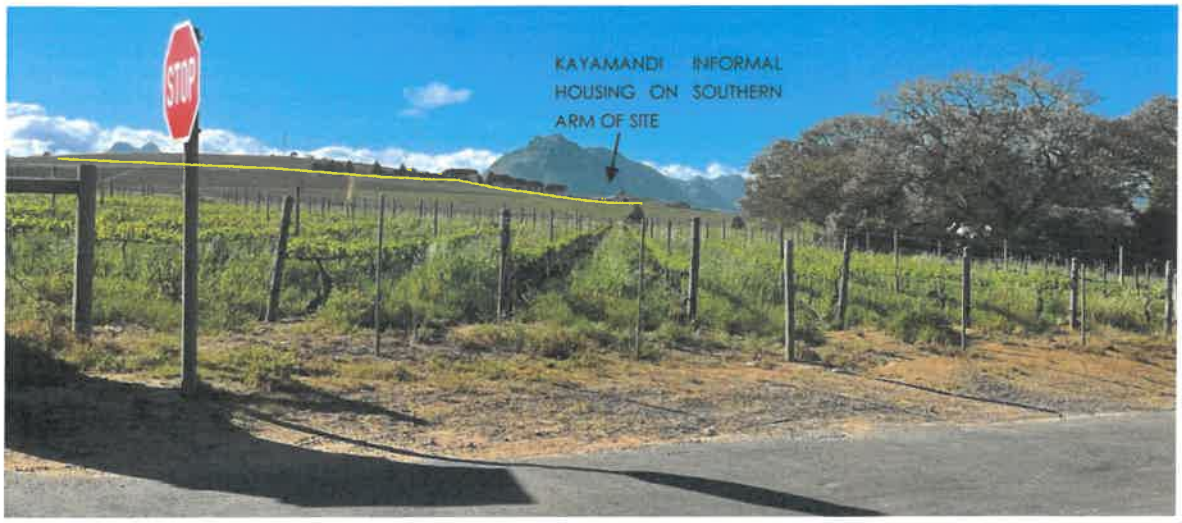


Figure 43: View onto the western slopes of the ridge between the valleys from the entrance to Protea Heights - the yellow line indicates the approximate western boundary of the site



Figure 44: View onto the western slopes of the ridge between the valleys from just beyond the Devon Valley Primary Zone- the yellow line indicates the approximate visible portion of the site

From the Devon Valley side, the western most portion of the site is visible from the Devon Valley Road, for a stretch of approximately 2kms from just beyond the gate at Protea Heights in the north to just beyond the Devon Valley Primary School in the south, also screened at certain points from view by planting along the road. It would seem that until recently the urban development to the east of the ridge has not been visible in this valley, but the informal expansion on the southern arm of the site, is now just visible from certain points along this road. The site is also visible from werfs and homesteads on the east facing slopes of the Devon Valley.

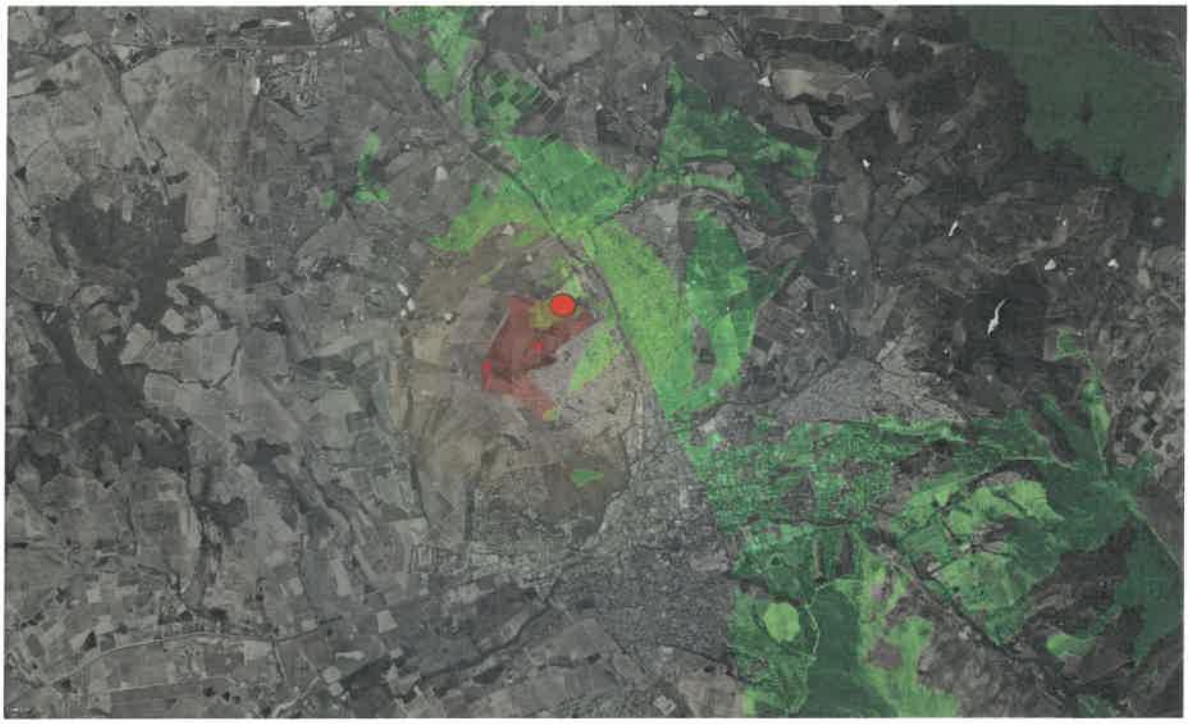


Figure 45: View catchment diagram: northern portion of the site. (Source: GEPro)



Figure 46: Zones of visual influence: Areas shaded red/orange are most directly affected. (Source: GEPro)

8.7.3 Visual Sensitivity

The portion of the field-of-view dominated by the proposal decreases substantially at distances beyond 500m from the site, as the proposal becomes continuous with the established urban area. The area is therefore considered to have **moderate visual sensitivity**.

8.8 Summary of heritage significance and suggested grading

Although the site has very little intrinsic heritage significance, development of the site could impact on the experience of the rural landscape as one approaches Stellenbosch along the R304 and also the Devon Valley landscape. In this regard it is noted that R304 approach has already been impacted by new high-density development to the east of R304 and in addition the development of Cloetesdal will largely negate the role of the site in landscape. As a result, it is argued that the IIIb grading for the eastern portion of the site is overstating its significance and the suggested grading is IIIc. However, the western portion of the site where it crests the ridgeline and forms part of the Devon Valley, with its exceptional aesthetic significance should be considered part of the larger IIIb landscape.



Figure 47: Proposed grading of the site

8.9 Summarized Heritage Statement

The site is primarily of spatial (contextual aesthetic) significance relating to its visible location in relatively rural/agricultural landscapes, particularly the Devon Valley. It is noted that large areas to the northeast of the site have been earmarked for development and thus effectively negates the role of the site in the open agricultural landscape of the Plankenbrug Valley. This is not the case in the largely intact rural landscape of the Devon Valley where the site straddles a portion of the important ridgeline that contains this valley. The property has no known scientific, historical, social, spiritual, or linguistic value, and none of the buildings on the site have architectural significance. Following on the above the eastern portion of the site, largely because of its open unbuilt nature, could possibly be graded IIIc for its contribution to the larger agricultural landscape. The western portion of the site forms part of a grade IIIb landscape.

9 HERITAGE INDICATORS

9.1 Introduction

The preparation of heritage/design indicators for future development pre-supposes that such development is appropriate in principle. In this instance the specific circumstances relating to the property and proposed development model are of particular relevance in deciding this matter.

9.2 Viability of the farm as an agricultural concern

Watergang, accommodating the Louisenhof Wine Cellar, has been negatively affected by the steady growth of Kayamandi and the resultant encroachment on the farm Watergang. The owner of this farm and the owner of the adjoining Cloetesdal have fallen victim to fatal attacks[1], which has had a severe impact on the value of the properties as going farming concerns. Both farms are subject to theft of equipment, vines, and infrastructure. Watergang, the site of land invasions forming the southern portion of the Northern Extension site, is not farmed anymore and has recently been purchased by the Stellenbosch Municipality to accommodate the large housing backlog experienced in Kayamandi.



Figure 48: View of Watergang (commonly known as Louisenhof) and its interface with Kayamandi – the invaded land is situated at the crest of the hill.

[1] *See* https://gosouth.co.za/w-cape-ministers-of-agriculture-and-community-safety-on-recent-farm-killing/

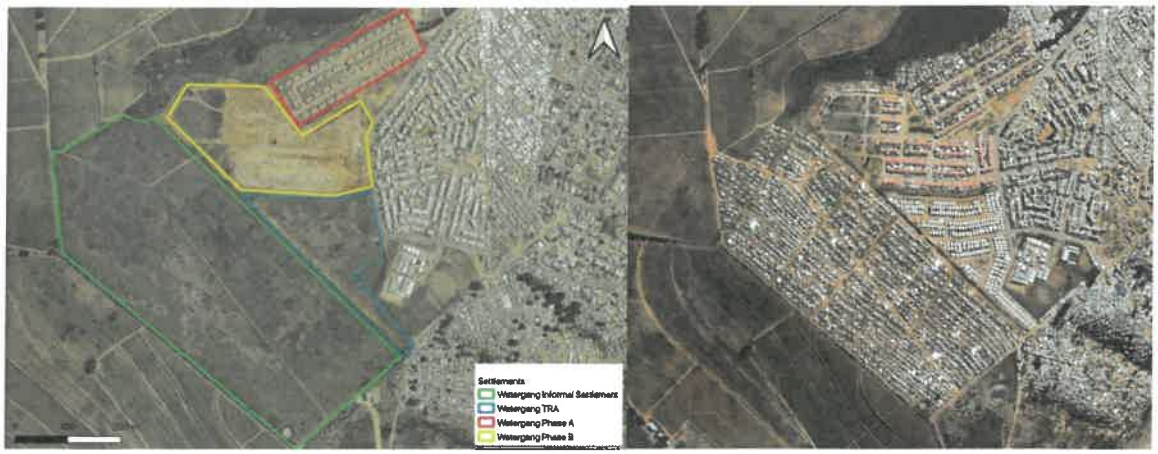


Figure 49: A 2014 Map indicating the Watergang temporary relocation areas, Phases A & B development areas and informal settlement area (left, from Ndamandama 2021[2] thesis), which as can be seen on the right, have been subsequently invaded and developed.

9.3 Spatial planning and development model

As noted in section 6 of this report, Watergang farm and a portion of land to its north have been earmarked for development in the policy planning for the Stellenbosch municipality for some time now, albeit that the extent increased from 2010 to 2017 and more so in 2019. The site is located within the larger Adam Tas development corridor. The Adam Tas Corridor is an ambitious catalytic project aimed at transforming the spatial structure of the town and creating socio-economic opportunities for a broad spectrum of people, particularly the low to middle income groups as a means to address the structural inequality of the town.

Further to the spatial policy plan for the northern extension, a large development on the farm Cloetesdal to the north of the site has been approved and is under construction. The approved heritage impact assessment for this development gives an indication of the view of the authorities regarding the significance attached this landscape.

[2] *Ndamandama, M. (2021): An Analysis of the Watergang Temporary Relocation Area in Kayamandi, Stellenbosch. Research assignment submitted in partial fulfilment of the requirements for the degree Honours Baccalaureus (in Geography and Environmental Studies) in the Faculty of (Geography and Environmental Studies) at Stellenbosch University. January 2021.*



Figure 50: The development concept for Cloetesdal farm as approved by the HWC in 2020 (Source: Osmond Lange Architects).

below illustrates the development concept for which an HIA has been approved.



Figure 50: The development concept for Cloetesdal farm as approved by the HWC in 2020 (Source: Osmond Lange Architects).

9.4 Design priorities

As set out in section 8 above, the site has no intrinsic heritage resources that would warrant a hold on development. The value of the property lies in its relationship with its broader spatial context, rather than its own particular aesthetic or intrinsic merits, and it follows that design priorities for future development should focus primarily on impacts affecting the surrounding landscape. In this regard the following should be noted:

- Development of this site, but more so Cloetesdal/Newinbosch to its north, will be visible from the R304 on the approach to Stellenbosch and although this route is not a designated scenic route, it will irreversibly change the entrance to Stellenbosch from this important access route.
- The development will be visible from across the valley from Cloetesville and Welgevonden.
- Development of the western portion of the site from the ridgeline westward, will have an impact on the Devon Valley landscape and will require very careful consideration to avoid a negative visual impact.

9.5 Indicators

Following on the above the following indicators should guide development on the site:

9.5.1 Extent of development on the site

It has been established that the potential visibility of the development especially from Devon Valley and its central road is the most significant heritage issue of concern to the proposed development of the site. Encroachment of development over the crest of this ridge should be avoided at all costs. Thus, development should be restricted to the east of the ridgeline and should not protrude above the ridgeline when viewed from the Devon Valley. This would also imply that the western boundary of the existing informal settlement would have to be setback from the ridge line. To this end 3D modelling will be required to test development options.

9.5.2 Mitigate visual impacts on northern edge

With regard to development on the west and north facing slopes of the sites it has been noted that a large portion of the site will be screened from view by the existing windbreak and the future development of Cloetesdal. Figure # below illustrates a photomontage of the preferred development option for Cloetesdal as viewed from the R304 and also the visibility of the upper eastern slopes of the site.



Figure 51: Photomontage of approved Cloetesdal development with visible portion of site indicated in yellow (Source: Osmond Lange Architects)

In the HIA for Cloetesdal it was argued that the development of the site could never by hidden from users of the R304 and thus it is suggested that a hybrid of a hard edge softened by clumps of trees, reflecting on the numerous farm werfs that characterise the landscape, is implemented. Although the site will be located "behind Cloetesdal, the topography will make it visible as suggested in photomontage above. It is thus suggested that development on this visible portion of the site be softened by clumps of trees, similar to the landscaping planned for Cloetesdal.

9.5.3 Higher densities & taller buildings to be concentrated on eastern portion of site

Following 9.3 it is evident that the development will have to accommodate various typologies of built form at a relatively high average density (it is generally accepted that 25du/ha is the minimum requirement to support services such as public transport). The bulk of the intensified multi-storey urban development should be kept to the lower slopes on the eastern portion of the site. And only single storey development should be allowed on the steeper upper slopes to the north of the site (Refer Figure 52).

9.5.4 Building Scale, Form and Materials

Whereas the site can accommodate development, built form must respond to and respect traditional patterns in scale, form and materials without mimicking or direct copying of these patterns. The underlying purpose is to ensure that new development is knitted into the broader landscape, rather than becoming self-referential and visually dominant. Building heights could vary between single and four storeys, and in some instances smaller elements could possibly extend to five storeys, with the proviso the heights are restricted to single storey on the upper slopes. In general, the built form should be diverse in design, materials, and colour scheme, including roof colours, to avoid the visual impact of uniformity. Because of the relative size of the site, as well as its elevated position, the development should be broken-up with generous green spaces to reduce the cumulative impact of densely clustered buildings, and to allow for the continuity of open space to connect the site into the broader cultural landscape. The layout should also respond to the topography of the site to minimize cut and fill for building platforms as well as roadways, and to provide for suitable stormwater drainage (possibly absorbed into the green areas) to prevent erosion.

9.5.5 Planting patterns and landscaping

With regard to landscaping the following indicators are suggested:

- Landscaping should be informal, with a variety of trees scattered throughout to soften visual impact.
- Clusters of trees at key points referencing farm werfs will be appropriate.
- Treed avenues giving access to the site, similar to entrance roads to farms will be appropriate.
- Windbreaks are not very common within this particular part of the Winelands and thus the use of single-species tree lines at regular intervals is not recommended. It is nevertheless suggested that the existing windbreak on the southern boundary of the site be retained.
- With respect to street trees, these can be planted in irregular rhythms and spacing (for informality) and reflect a variety of appropriate species, rather than single species avenues.
- All fencing should be entirely visually permeable.

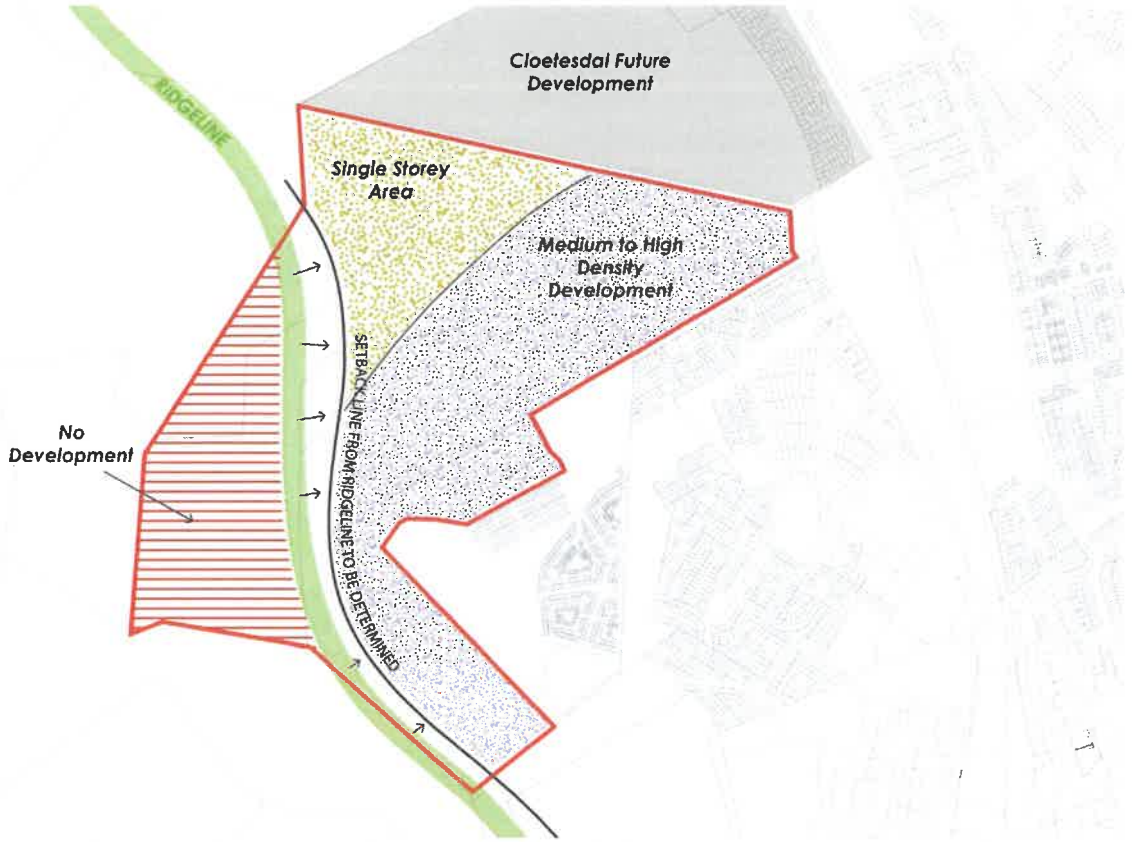


Figure 52: A diagrammatic representation of the proposed indicators for development of the site.

10 DEVELOPMENT PROPOSAL

10.1 Preferred development option

The preferred development proposal is set out in development framework prepared by Zutari. The proposal entails a large mixed-used development, that will cater to a mix of income groups with a variety of housing options and provide commercial /employment opportunities as well as the social /community facilities and infrastructure to address the needs of the resident community.

The vision for the site is to create an urban development that is a piece of Stellenbosch, integrated and connected into its context; and a safe and secure, dignified living environment that provides a diverse range of housing, recreational, social, and economic opportunities for communities living on and around the site, that is connected with the landscape, designing with the terrain, and celebrating natural features.

The development will consist of the following components:

- 1160 free standing residential units delivered as GAP housing, fully subsided housing (known as BNG) or through the Finance Linked Individual Subsidy Programme (FLISP).
- 1444 housing opportunities (serviced sites) delivered through the Upgrade of Informal Settlements Programme (UISP) of the provincial government.
- 2118 apartments accommodated in apartment and mixed-used buildings and available through FLISP or on the open market.
- 2 primary schools and 1 secondary school

- 17 day-care/ creche facilities
- a post office, community hall, clinic, ICT access point and provision for 5 places of worship
- an interchange for public transport
- a network of hard and soft public open spaces and attenuation ponds of 21,6ha
- an area set aside for conventional agriculture and possibly hydroponic cultivation on a smaller portion with a total area of 35 ha
- an agricultural training facility on a 1,9ha site

The urban design framework is based on the following:

- Flexible development blocks – a series of flexible development blocks that support a variety of development typologies and uses.
- Linkages and connections – A system of structuring routes that support integration across the site and connection to the surrounding context (routes and public facilities)
- Mixed use typologies – a variety of uses including residential, commercial, light industry, agriculture, and public facilities with clusters of facilities located along structuring route.
- An integrated open space system where the existing natural system, terrain, and infrastructure guide design to create:
    - A river corridor and associated 'central park'
    - Linear parks associated with electrical servitude and avenues of trees
- Site specific requirements related to:
    - Agriculture - farming and an associated education facility
    - Slope and terrain guide street network, location of height, building typologies and the stormwater system. (Figure 53 overleaf illustrates the framework)

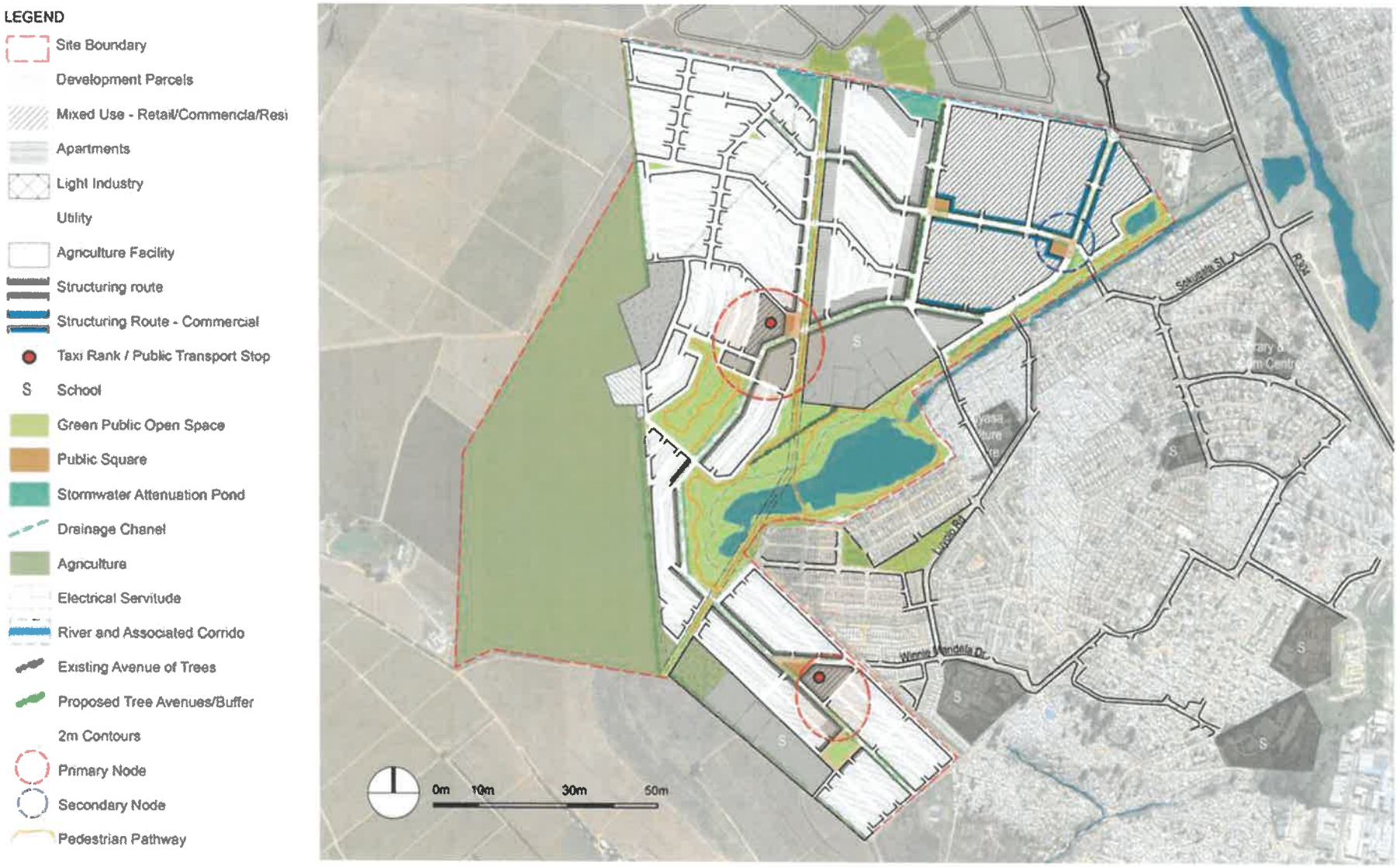


Figure 53: Preferred option: Urban Design Framework (Zutari, 2023)

Figure 54 below illustrates the proposed land uses for the site. Of relevance to the HIA are the uses proposed along the ridge line and also those on the northern boundary of the site. The area to the west of ridgeline will be retained for agricultural cultivation only. An agricultural training facility is proposed just to the north of highest point of the site. Further details are not available at this stage. To the north and south of this facility the boundary will be lined with single residential development with a maximum height of 2 storeys. The western boundary of the southern arm of the site (currently an informal settlement) will be lined with a school site and community facilities, including possibly hydroponic farming opportunities.

Apartment blocks on the mid-slopes of the eastern portion of the site are indicated as being 2-3 storeys high and the mixed-use typology proposed for the lowest eastern end of the site, between 3.5 storeys.

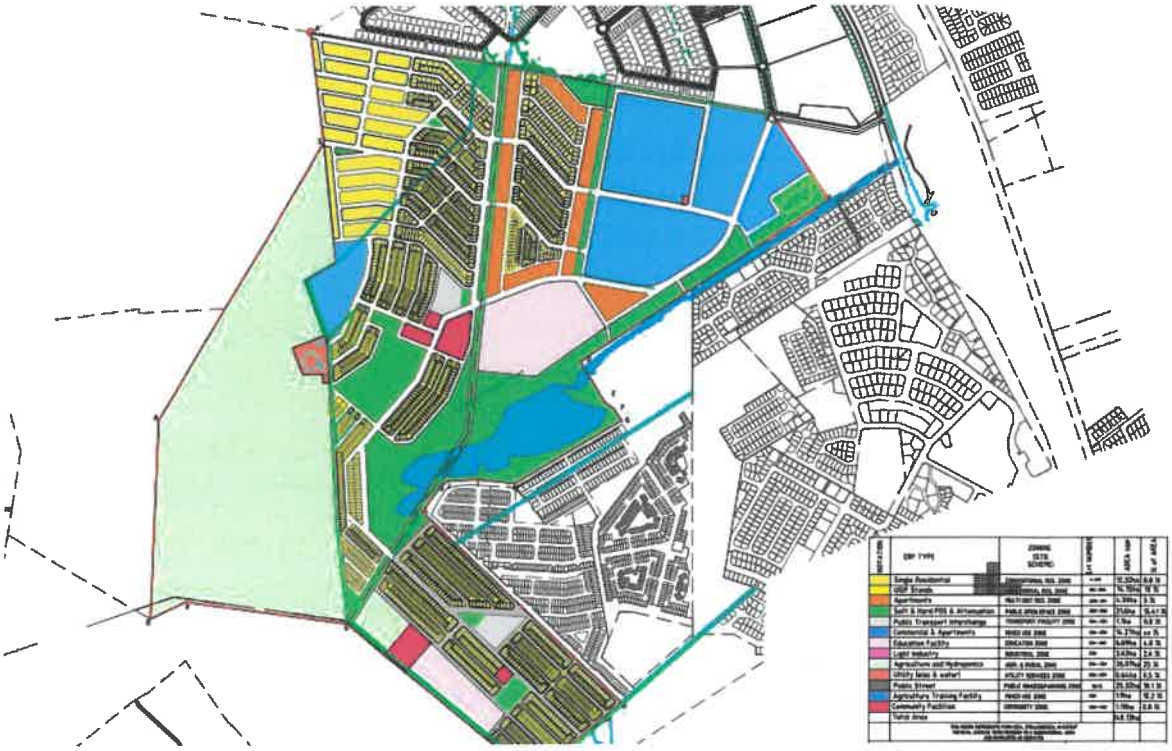


Figure 54: Proposed distribtion of land uses (Zutari, 2023)

10.2 Alternative option

Figure 55 illustrates an earlier proposal for the development of site as an alternative option. Although the proposal is similar in many respects to the preferred option, there are some notable differences:

- Provision for a "buffer area" to accommodate light industrial development for workshops, 'modern manufacturing' and small-scale non-noxious industry along the north-western boundary of the site.

- The agricultural area to the west of the ridgeline was to include an agricultural training college, hydroponics, and urban farming. The UDF noted that because these facilities occur in the highest point of the site they must be "well-designed, landmark facilities contributing to the sense of place and integrated with the site's landform". The maximum height was set at 8m.

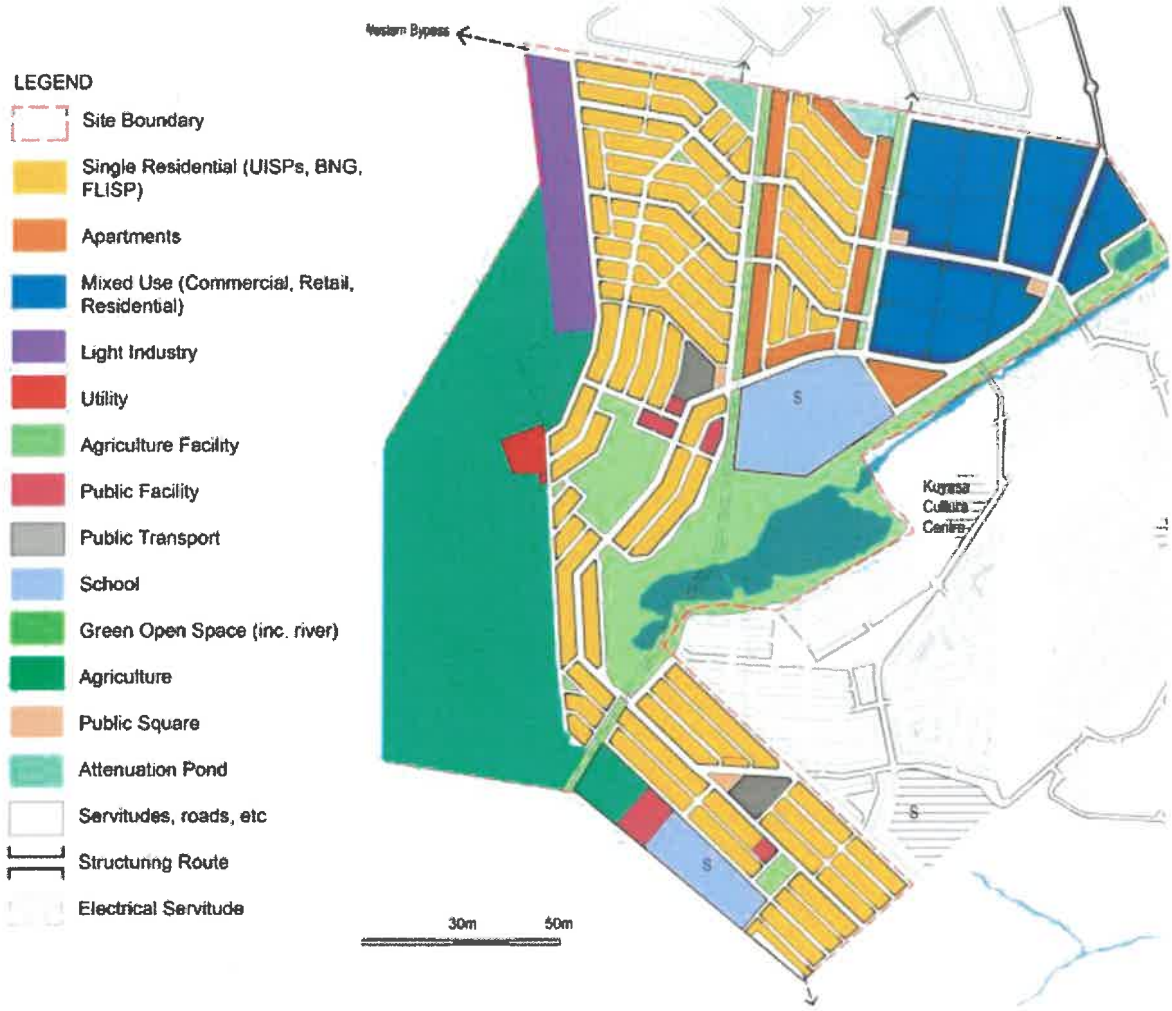


Figure 55: Alternative development option (Zutari, 2023)

10.3 The no-go option

The viability of the no-go option has already been touched on Section 9 of the report. The following is of relevance:

- The bulk of the property is no longer actively farmed, as a result of the impacts of the growth of Kayamandi immediately to the south and the subsequent encroachment of informal housing on the property.
- Watergang farm and a portion of land to its north have been earmarked for development in the approved Stellenbosch SDF and the site forms part of an important development corridor for the town of Stellenbosch, that is earmarked to change to socio-economic landscape in Stellenbosch – the proposed development will contribute to achieving the vision of a more equitable and integrated community by providing opportunities to those layers of society currently not catered for in Stellenbosch.
- The land has recently been purchased by the Stellenbosch Municipality to accommodate the large housing backlog experienced in Kayamandi. If the land is not formally developed it will almost certainly be taken over by informal development.

The no-go option is thus not regarded as a realistic prospect.

11 ASSESSMENT OF THE PROPOSED DEVELOPMENT

From the assessment of the significance of the site and associated heritage resources, it is evident that the only issue of concern would be the impact of the proposed development on the cultural landscape. Furthermore, it is acknowledged that the site, being bounded by development to its south and north (albeit under construction) does in fact make a limited contribution to the cultural landscape that comprises the setting for the town of Stellenbosch, apart from the portion that forms part of the Devon Valley.

11.1 Assessment against the indicators

The heritage indicators have been formulated to reduce the likely negative impacts of the development on the cultural landscape and allow the development to sit as comfortably as possible in the receiving environment – an assessment of the proposal against the indicators thus helps to understand the impact of the proposal on heritage resources.

Following on the above the following indicators should guide development on the site:

11.1.1 Extent of development on the site

The key indicator with respect to the extent of development on the site, was the containment of development below the ridgeline to the eastern of the site. No 3D modelling has been provided of the preferred development option, but it seems possible that the proposed school, community facilities and hydroponic farming infrastructure could protrude above the ridgeline. The urban designers have provided a diagram, that illustrates that a two-storey building on the school site, could be placed so as to avoid visibility above the ridgeline.

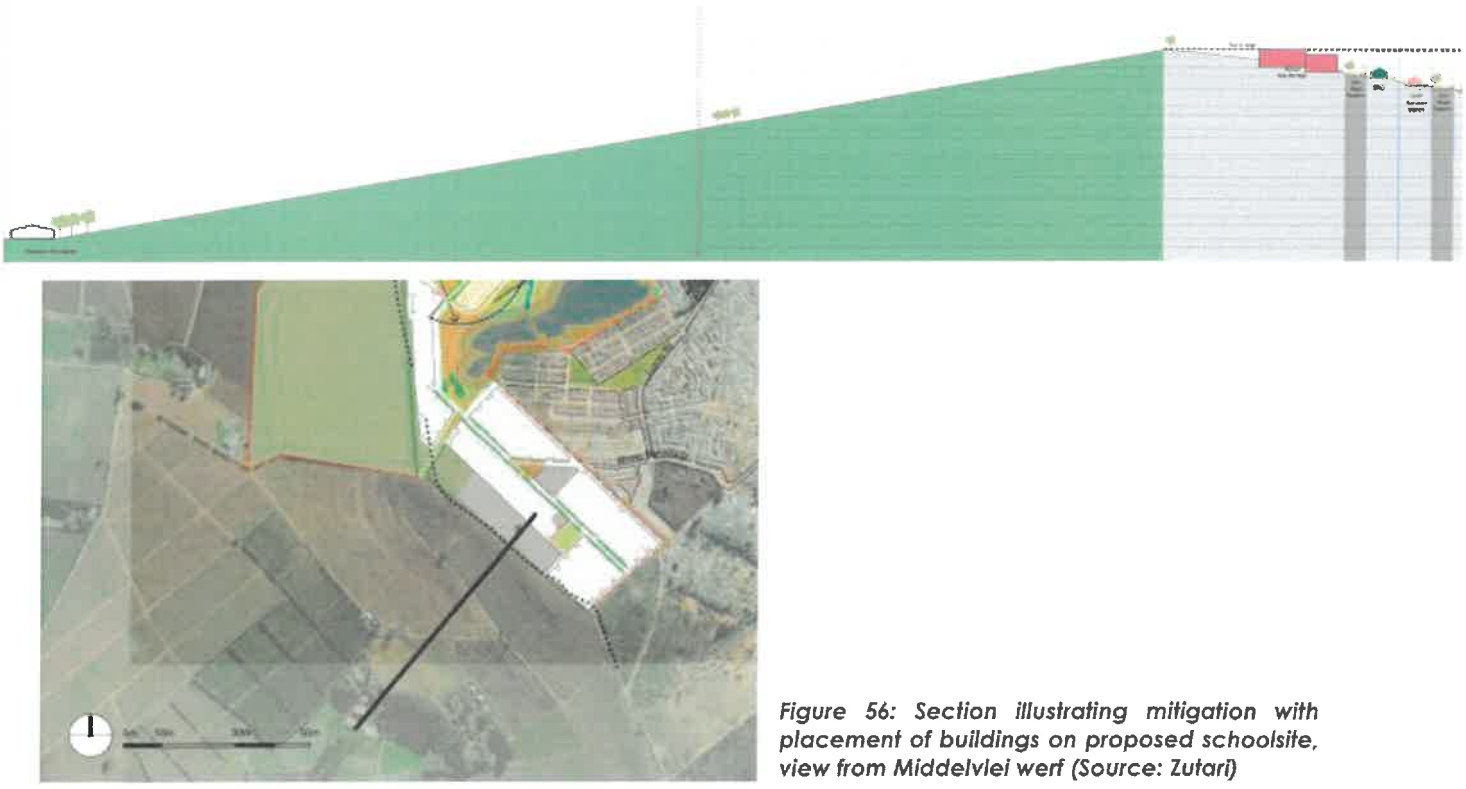


Figure 56: Section illustrating mitigation with placement of buildings on proposed schoolsite, view from Middelvlei werf (Source: Zutari)

It is thus possible that the proposed development along this ridgeline could be adequately mitigated with careful, placement and landscaping.

11.1.2 Mitigate visual impacts on northern edge

It is likely that development on the north-western portion of the site will be visible from the R304 when approaching Stellenbosch. This is not regarded as dealbreaker, given the large development under construction in the foreground, but is should nevertheless be mitigated with planting. No landscaping plan has been provided to date to address this issue. At the broad scale of the UDF, it would seem that landscaping could be accommodated on the northern boundary, but this will have to be confirmed with the landscape framework plan at a minimum.

11.1.3 Higher densities & taller buildings to be concentrated on eastern portion of site

The UDF plan indicates that the taller buildings will be contained to the lower eastern portions of the site. The north-western portion is indicated for single residential development, and thus it is noted that depending on the mechanism of delivery, houses may, especially over time, have two storeys. Although the indicator indicates single storey as preferred, it is acknowledged that this could be difficult to enforce in the long term, and furthermore, it is acknowledged that the potential visual impact of free-standing double storey houses, could be mitigated with planting (both along the northern boundary, and throughout the development).

11.1.4 Building Scale, Form and Materials

There are no design guidelines available for the development of the site at present. As noted above the proposed distribution of the built-form typologies across the site is regarded as acceptable. The layout also works well with the topography, with not much cut and fill that will be needed for buildings. It is also anticipated that the site will be parcelled-up and development undertaken by various agents, which will mitigate against the visual impact of sameness. Nevertheless, it is suggested that some form design guidelines are prepared that specifically address aspects such as massing and height that could have a negative visual impact if over-scaled.

11.1.5 Planting patterns and landscaping

As noted above proposals for the landscaping of the development are not available at present. A landscaping framework that addresses at least tree planting across the site, as well as fencing will be required. In particular, where the site interfaces with the Devon Valley cultural landscape, visually permeable fencing of a rural character should be used. Below is an example of fencing that would be regarded as appropriate for the site:



Figure 57: Fencing at De Zalze (R44). Source: Google Streetview



Figure 58: Fencing at De Zalze (R44). Source: Google Streetview

11.2 Assessment of the visual impact on the cultural landscape

11.2.1 Significance of Sensitivity to Visual Change

When the site is considered from the east, the portion of the field-of-view dominated by the proposal decreases with distance as the proposal become continuous with the existing townscape or is obscured from view. The area is therefore considered to have **moderate visual sensitivity**. When considered from the west, the portion of the site west of the ridgeline is continuous with the Devon Valley cultural landscape. The receptors of the anticipated visual impact of this portion include areas which are considered to have **high visual sensitivity**.

The site falls within the urban edge, but interfaces with a rural cultural landscape with high visual / scenic amenity value, specifically west of the ridgeline where it is continuous with Devon Valley. As a function of **landscape sensitivity** and anticipated **magnitude of change** the sensitivity to visual change is deemed to be of **moderate to high significance.**

11.2.2 Visual Intrusion of Development (Magnitude of visual change)

The development is proposed to occupy already transformed by agriculture and will form continuity with the existing urban fabric east of the ridgeline. New development will fit partially into the surroundings but will be noticeable due to the transformation of the site. The development is therefore considered to have **moderate visual intrusion.**

11.2.3 Visual Absorption Capacity of Site

Considering the existing vegetation and landform, the Visual Absorption Capacity (VAC) of the site is considered to be **moderate**, with partial screening afforded, but noting that site clearance in preparation for development will reduce the visual absorption provided by planting. (This can be mitigated through new landscape measures).

11.2.4 Significance of Anticipated Visual Impacts

The visual impacts of the development are assessed to be of a **moderate negative significance.** This means that the proposed development would have a material effect on the receiving environment (including people), and whereas legal requirements may be met, thresholds of potential concern with regard to environmental quality may be crossed. Mitigation measures are required to reduce the impact significance.

	Potential impact upon the cultural landscape character of the intact, rural **Devon Valley**
	Description
Potential impact	Impact on visual intactness of the **Devon Valley** & its **eastern ridgeline**
Risks *(to broader context)*	Unmitigated negative impacts detract from receiving environment
Risks *(to local context)*	Transition in landscape character from rural to urban – visual intrusion
Risks *(to subject site)*	Change in sense of place due to visual disruption of landscape
Consequence *of impacts and risks*	Insertion of urban development foreground views
Probability *of occurrence*	***probable***
Level of ***Confidence*** *in prediction*	***medium***
Nature of Impact	**Description**
Negative	Reduction of rural landscape, visual intrusion of new development
Neutral	Continuity of rural landscape, integration of urban townscape
Positive	Retention of agricultural portion west of the ridgeline
Type of Impact	**Description**
Direct	Buildings inserted into visually exposed intact rural valley (Devon Valley)
Indirect	Increased activities, loss of rural 'proximity' to the town
Induced	Urban extension into rural landscape
Cumulative	Adds urban development to Stellenbosch urban periphery

Magnitude: degree to which impact:	*n/a*	***Low***	***low/med***	***medium***	***med/high***	***high***
may cause ***irreplaceable loss***					***med/high***	
can be ***avoided***			***low/med***			
can be ***reversed***		***low***				
can be ***managed***				***medium***		
can be ***mitigated***				***medium***		

Impact Ratings	*n/a*	***low***	***low/med***	***medium***	***med/high***	***high***
Extent *of impact*			***local***			
Duration *of impact (term)*					***long-term***	
Intensity *of impact*					***med/high***	

Thresholds of Significance:	*v.high +ve*	*high +ve*	*med +ve*	*low +ve*	*v.low +ve*	*neutr 0*	*negig 0*	*v.low -ve*	*low -ve*	*mod. -ve*	*high -ve*	*v.high -ve*
Significance rating BEFORE mitigation										***mod -ve***		

Proposed mitigation measures	**Description**
Impact ***avoidance/ prevention***	Locate proposed structures to sit below ridgeline on eastern portion of site
Impact ***minimization***	Plan development to respond positively to visual/heritage indicators
Rehabilitation/ restoration/ repair	Architectural measures (form/scale/massing/ materials/textures, etc.)
Compensation*/ offset*	Landscape measures (screen tree planting/open space/view corridors)
Residual *impact*	Development which partially fits in with the local landscape

Impact Ratings after mitigation	*n/a*	***Low***	***low/med***	***Medium***	***med/high***	***High***
Extent *of impact*			***local***			
Duration *of impact (term)*		***(until***	***landscape***	***matures)***	***Medium***	
Intensity *of impact*					***Medium***	

Thresholds of Significance	*v.high +ve*	*high +ve*	*med +ve*	*low +ve*	*v.low +ve*	*neutr 0*	*negig 0*	*v.low -ve*	*low -ve*	*mod. -ve*	*high -ve*	*v.high -ve*
Significance rating AFTER mitigation			***med +ve***									

Potential impact of development on the **northern slopes** upon the cultural landscape character

	Description
Potential impact	High visibility of proposal on **northern slopes** of **eastern portion** of site
Risks *(to broader context)*	Unmitigated negative impacts detract from receiving environment
Risks *(to local context)*	Transition in landscape character from rural to urban
Risks *(to subject site)*	Change in sense of place due to visual disruption of landscape
Consequence *of impacts and risks*	Insertion of urban development foreground views
Probability *of occurrence*	definite
Level of ***Confidence*** *in prediction*	medium

Nature of Impact	Description
Negative	Reduction of rural landscape, visual intrusion of new development
Neutral	Integration of urban townscape (visible beyond Newinbosch)
Positive	Retention of agricultural portion west of the ridgeline

Type of Impact	Description
Direct	Buildings inserted into visually exposed 'gateway' to Stellenbosch
Indirect	Increased activities, loss of rural 'proximity' to the town
Induced	Increased traffic along R304, urban extension into rural landscape
Cumulative	Adds urban development to Stellenbosch urban periphery

Magnitude: degree to which impact:	n/a	Low	low/med	medium	med/high	High
may cause ***irreplaceable loss***					med/high	
can be ***avoided***			low/med			
can be ***reversed***		low				
can be ***managed***			low/med			
can be ***mitigated***			low/med			

Impact Ratings	n/a	low	low/med	medium	med/high	High
Extent *of impact*			local			
Duration *of impact (term)*					long-term	
Intensity *of impact*					med/high	

Thresholds of Significance:	v.high +ve	high +ve	med +ve	low +ve	v.low +ve	neutr 0	negligible 0	v.low -ve	low -ve	mod. -ve	high -ve	v.high -ve
Significance rating BEFORE mitigation										Mod -ve.		

Proposed mitigation measures	Description
Impact ***avoidance/ prevention***	Restricting development building heights to single storey (possibly double)
Impact ***minimization***	Plan development to respond positively to visual/heritage indicators
Rehabilitation/ restoration/ repair	Architectural measures (form/scale/massing/ materials/textures, etc.)
Compensation*/ offset*	Landscape measures (screen tree planting/open space/view corridors)
Residual *impact*	Development which partially fits in with the local landscape

Impact Ratings after mitigation	n/a	Low	low/med	Medium	med/high	High
Extent *of impact*			local			
Duration *of impact (term)*		(until	landscape	matures)	medium	
Intensity *of impact*				medium		

Thresholds of Significance	v.high +ve	high +ve	med +ve	low +ve	v.low +ve	neutr 0	negligible 0	v.low -ve	low -ve	mod. -ve	high -ve	v.high -ve
Significance rating AFTER mitigation			med +ve									

Although the lack of more detail information and in particular 3D modelling, has made the assessment somewhat difficult, the authors are confident that the concerns raised with certain aspects of the development are valid, but can also be addressed further down the line in the approval processes. Thus, the following are recommended:

- Development of the bulk of the site as proposed is acceptable, provided that:
    - Development guidelines aimed at enforcing height restrictions as per the indicators (to a maximum of 5 storeys on the lower eastern portion) and addressing massing of buildings to avoid over-scaled monolithic structures are prepared and submitted to the Stellenbosch Municipality, Heritage Section for approval.
    - A landscape framework plan is prepared and submitted to the Stellenbosch Municipality, Heritage Section for approval that addresses at least tree planting and fencing, particularly at the interface with rural landscapes.
- Development/structures of the eastern portion of the site that may protrude above the ridgeline or development/structures on the western portion of the site, (to the west of the ridgeline) should be subject to the submission of site development plans, with 3D modelling, where appropriate, that indicates placement, massing, and landscaping. Site plans and modelling to be submitted to the Stellenbosch Municipality, Heritage Section for approval.

11.3 Assessment of alternatives

The alternative option is likely to have more severe impacts than the preferred option, in particular as it includes proposed development on the western most portion of the site, as well as development with significant massing that is very likely to protrude above the ridgeline into the Devon Valley viewshed. When approaching from the R304, the industrial development proposed along the north-western boundary in the alternative option is also likely to be more visually intrusive than the single residential development proposed in the preferred option.

12 SOCIO-ECONOMIC IMPACTS

No details regarding the socio-economic impacts of the proposed development have been provided, but is evident that the proposal will have significant socio-economic benefits including:

- Job-creation during the construction and implementation phases.
- Providing much needed housing opportunities to address the critical shortage of housing at the lower end of the market.
- Improving the living conditions of households currently living in informal structures.
- Creating commercial, educational, and training opportunities on the site
- Expanding the Municipality's rates base.

13 FINDINGS AND RECOMMENDATIONS

The site can potentially absorb a significant extent and intensity of development, without impact negatively on heritage resources. These resources are restricted to the visual amenity of the cultural landscape, particularly that of the Devon Valley.

Overall, the significance of the impact of the proposed development is regarded as **moderate** reducing to **medium to low** with mitigation.

Although the lack of more detailed information (and in particular 3D modelling) has made the assessment somewhat difficult, the authors are confident that although the concerns raised with respect to certain aspects of the development are valid, these can also be addressed further down the line within the approval processes.

Thus, it is recommended that the **preferred development option is supported**, subject to the following:

- Development guidelines aimed at enforcing height restrictions as per the indicators (to a maximum of 5 storeys on the lower eastern portion) and addressing the massing of buildings to avoid over-scaled monolithic structures are prepared and submitted to the Stellenbosch Municipality, Heritage Section for approval.

- A landscape framework plan that addresses at least tree planting and fencing, particularly at the interface of the site with rural landscapes is prepared by a suitably qualified landscape architect and submitted to the Stellenbosch Municipality, Heritage Section for approval.

- Development of any structures within the eastern portion of the site that may protrude above the ridgeline, and/or development of any structures on the western portion of the site (to the west of the ridgeline) should be subject to the submission of site development plans to the local authority for approval by the Stellenbosch Municipality, Heritage Section. These SPDs should indicate building placement, massing and landscaping and should include 3D modelling, where appropriate.

The yellow-highlighted area below indicates the portions of the site where new structures will require submission of SDPs/sketch plans to the Stellenbosch Municipality, Heritage Section for approval. Proposals for new public/community facilities will require detailed SDPs to be submitted, and all new houses proposed within the yellow area will require the submission of sketch plans which must also indicate landscaping.

The Stellenbosch Municipality, Heritage Section should have the power to restrict the height of structures to one storey, to direct the placement of buildings on these sites and prescribe landscaping requirements.

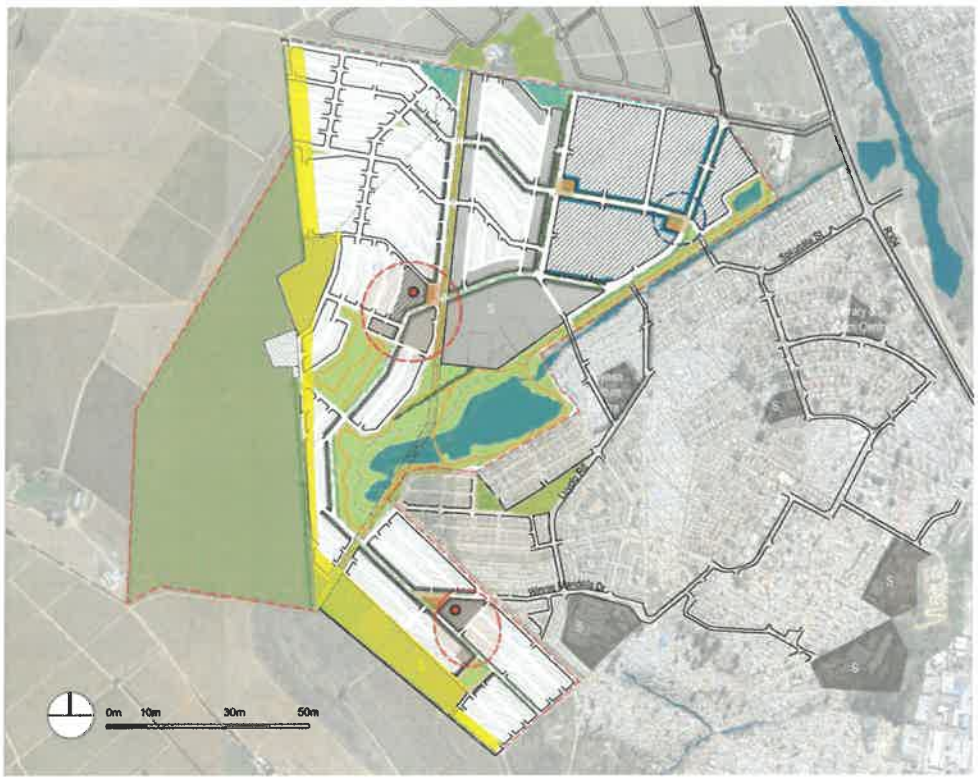


Figure 59: UDF to be approved, subject to submission of SDPs/sketch plans for development in the yellow area for approval by Stellenbosch Municipality, Heritage Section

14 REFERENCES

Deeds office records

Fransen, H, 2004: The old buildings of the Cape. Jonathan Ball, Cape Town.

Mountain, A, 2003: The first people of the Cape. David Philip, Cape Town.

Smuts, et al, 1979: Stellenbosch Drie Eeue. Stellenbosch Town Council.

https://gosouth.co.za/w-cape-ministers-of-agriculture-and-community-safety-on-recent-farm-killing/ (visited 08/10/2019)

Our Ref: HM / CAPE WINELANDS / STELLENBOSCH / FARM 23/183, GROOTVLEI, RE/183, GROOTVLEI, RE 5/183, GROOTVLEI, RE 182, WATERGANG, RE 1/182, WATERGANG, RE 1/183, GROOTVLEI, 36/183, GROOTVLEI
Case No.: 22082307SB0902E
Enquiries: Stephanie Barnardt
E-mail: Stephanie.Barnardt@westerncape.gov.za
Tel: 021 483 5959

iLifa leMveli leNtshona Koloni
Erfenis Wes-Kaap
Heritage Western Cape

Lester Van Stavel
Lester.vanstavel@stellenbosch.gov.za

RESPONSE TO NOTIFICATION OF INTENT TO DEVELOP: HIA REQUIRED
In terms of Section 38(8) of the National Heritage Resources Act (Act 25 of 1999) and the Western Cape Provincial Gazette 6061, Notice 298 of 2003

NOTIFICATION OF INTENT TO DEVELOP: PROPOSED MIXED USE DEVELOPMENT ON FARMS 23/183 GROOTVLEI, RE/183 GROOTVLEI; RE 5/ 183 GROOTVLEI, RE182 WATERGANG, RE 1/182 WATERGANG; RE 1/183 GROOTVLEI AND 36/183, GROOTVLEI, STELLENBOSCH, SUBMITTED IN TERMS OF SECTION 38(1) OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)

The matter above has reference.

Heritage Western Cape is in receipt of your application for the above matter received. This matter was discussed at the Heritage Officers Meeting held on 12 September 2022

You are hereby notified that, since there is reason to believe that the proposed mixed use development on Farms 23/183 Grootvlei, RE/183 Grootvlei; RE 5/ 183 Grootvlei, RE182 Watergang, RE 1/182 Watergang; RE 1/183 Grootvlei and 36/183, Grootvlei, Stellenbosch located in xxx will impact on heritage resources, HWC requires that a Heritage Impact Assessment (HIA) that satisfies the provisions of Section 38(3) of the NHRA be submitted. Section 38(3) of the NHRA provides

*(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): **Provided that the following must be included:***

(a) The identification and mapping of all heritage resources in the area affected;
(b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
(c) an assessment of the impact of the development on such heritage resources;
(d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
(e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
(f) if heritage resources will be adversely affected by the proposed development, The consideration of alternatives; and
(g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(Our emphasis)
This HIA must in addition have specific reference to the following:

- Archaeological impact assessment
- A visual impact assessment on the cultural landscape

The HIA must have an overall assessment of the impacts to heritage resources which are not limited to the specific studies referenced above.

The required HIA must have an integrated set of recommendations.

The comments of relevant registered conservation bodies; all interested and Affected parties; and the relevant Municipality must be requested and included in the HIA where provided. Proof of these requests must be supplied.

Street Address: Protea Assurance Building, Green Market Square, Cape Town, 8000 • Postal Address: P.O. Box 1665, Cape Town, 8000 • Tel: +27 (0)21 483 5959 • E-mail: capeheritage@westerncape.gov.za

Straatadres: Protea Assuransie gebou, Groentemarksplein, Kaapstad, 8000 • Posadres: Posbus 1665, Kaapstad, 8000 • Tel: +27 (0)21 483 5959 • E-pos: capeheritage@westerncape.gov.za

Idilesi yendawo: kumgangatho 5 lwesakhiwo iprotea Assurance, Greenmarket Square, ekapa, 8000 • Idilesi yeposi: Incombolo yeposi 1665, ekapa, 8000 • Inombolo zomnxeba: +27 (0)21 483 5959 • Idilesi ye-imeyile: capeheritage@westerncape.gov.za

ILifa leMveli leNtshona Koloni
Erfenis Wes-Kaap
Heritage Western Cape

Our Ref: HM / CAPE WINELANDS / STELLENBOSCH / FARM 23/183, GROOTVLEI, RE/183, GROOTVLEI, RE 5/183, GROOTVLEI, RE 182, WATERGANG, RE 1/182, WATERGANG, RE 1/183, GROOTVLEI, 36/183, GROOTVLEI
Case No.: 22082307SB0902E
Enquiries: Stephanie Barnardt
E-mail: Stephanie.Barnardt@westerncape.gov.za
Tel: 021 483 5959

If applicable, applicants are strongly advised to review and adhere to the time limits contained the Standard Operational Procedure (SOP) between DEADP and HWC. The SOP can be found using the following link http://www.hwc.org.za/node/293

Kindly take note of the HWC meeting dates and associated agenda closure date in order to ensure that comments are provided within as Reasonable time and that these times are factored into the project timeframes.

HWC reserves the right to request additional information as required.
Should you have any further queries, please contact the official above and quote the case number.

.....
Colette Scheermeyer
Deputy Director

Heritage Western Cape
Erfenis Wes-Kaap
ILifa leMveli leNtshona Koloni

19 September 22

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE N

Western Cape Government

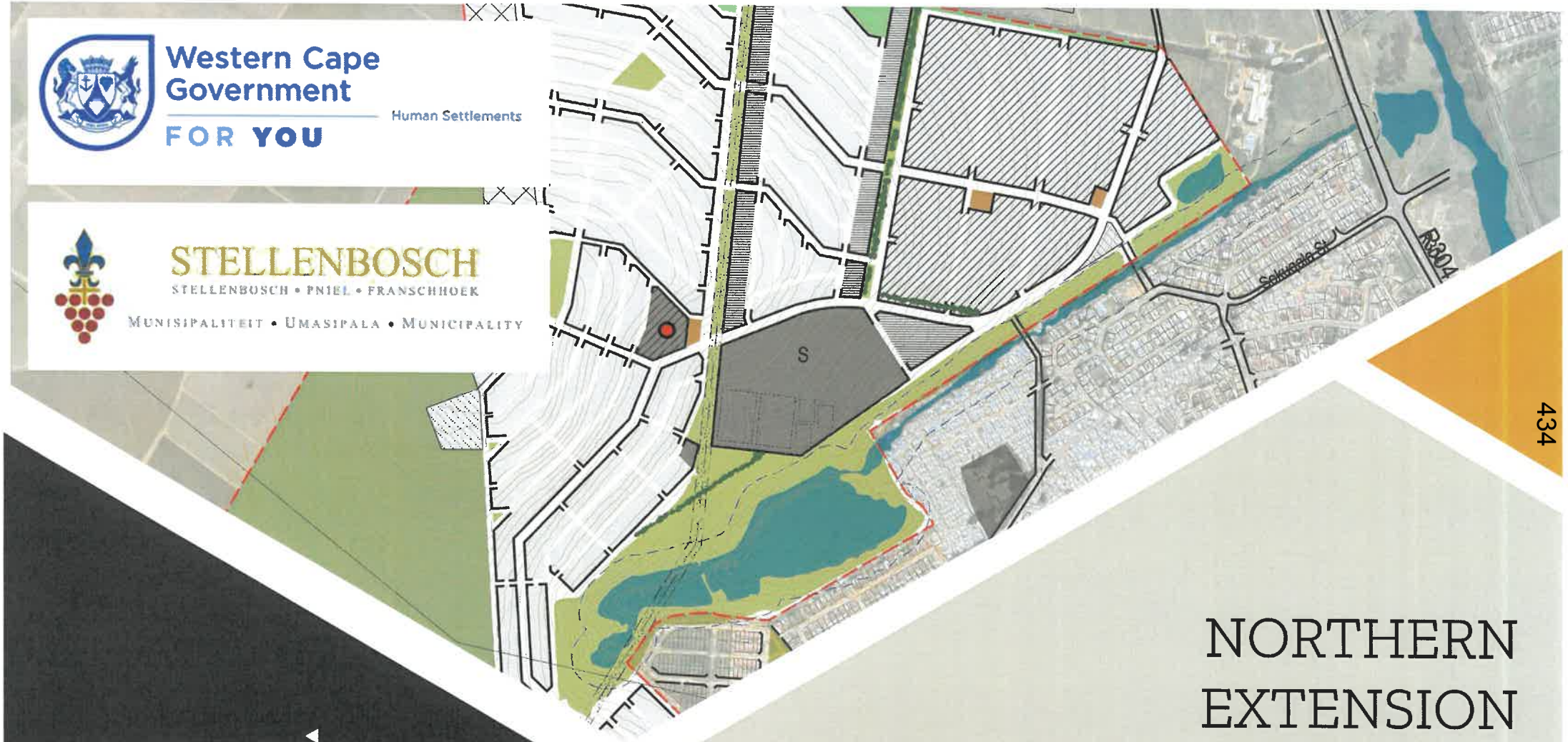
Human Settlements

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434

NORTHERN EXTENSION

Urban Design Framework

November 2023

ZUTARI

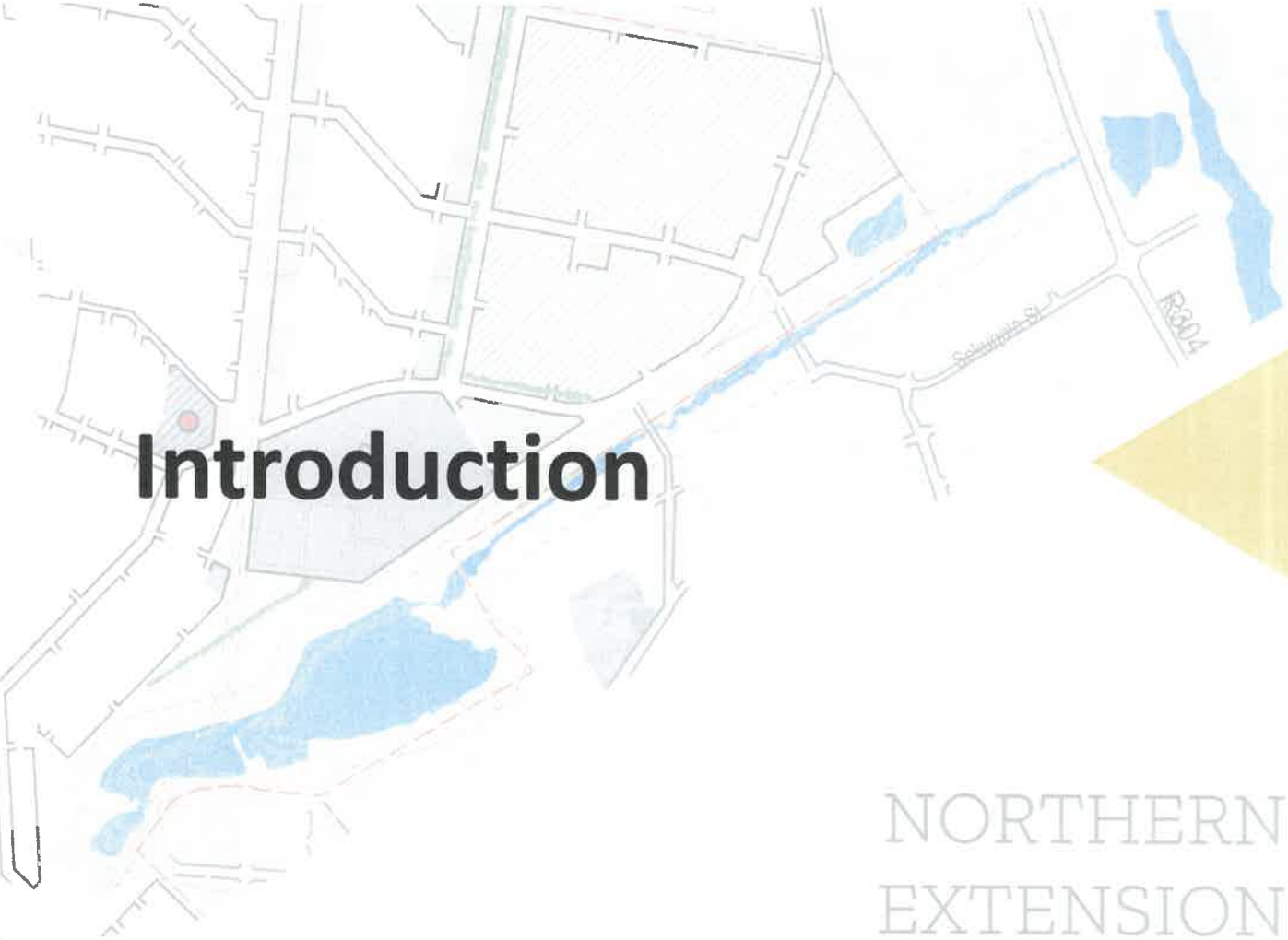
IMPACT. ENGINEERED.

CONTENTS

- Introduction
- Project Location & Property Details
- Current Zoning
- Development Vision & Design Informants
- Layout Plan & Land Use
- Design Elements / Examples

Western Cape Government

FOR YOU



Introduction

ZUTARI

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NORTHERN EXTENSION

PRE-APPLICATION MEETING

30/08/2023

NPK BUILDING, FIRST FLOOR, PLANNING BOARDROOM 1

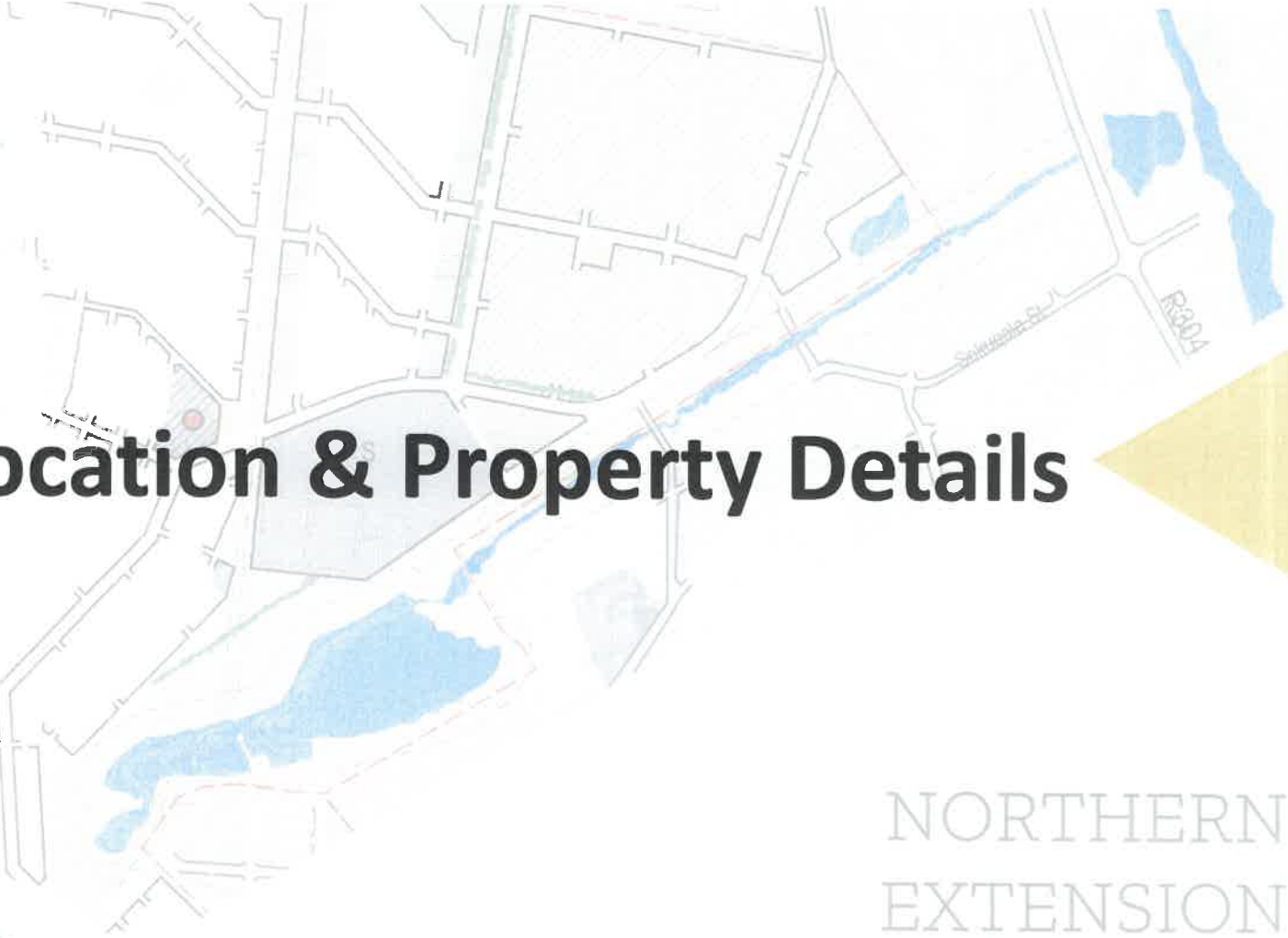
ZUTARI

Introduction

- Zutari appointed by Stellenbosch Municipality (Housing Department) to prepare and submit an application to the Stellenbosch Municipality on their behalf. The **main objective** is to undertake a **Broad Conceptual Urban Design framework** for the Northern Extension, Stellenbosch, to **guide the development framework and to obtain town planning** (Land Use Planning Rights) and **development rights**.
- The Municipality is aiming to facilitate the development of **±4000 to ± 6000 residential opportunities**, as well as providing the **required social amenities and public facilities required**.
- The project site, Northern Extension of Stellenbosch, is situated north of Kayamandi, adjacent to Cloetesville and Welgevonden Estate, within the Stellenbosch Municipal area. The site is located on the western side of the R304 (main arterial from the North) to Stellenbosch.
- The layout plan for the proposed development has been informed by a range of studies. **All site sensitivities and constraints have been incorporated in the design of the development**.
- It is therefore the intention to submit an **application in terms of Section 15(2) of the Stellenbosch Municipality Land Use Management By-laws, 2015** to get formal approval for the layout and **obtain land development rights** which will enable the Municipality to **maximise the potential of the land** and provide housing opportunities to the community.

Western Cape Government

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Project Location & Property Details

ZUTARI

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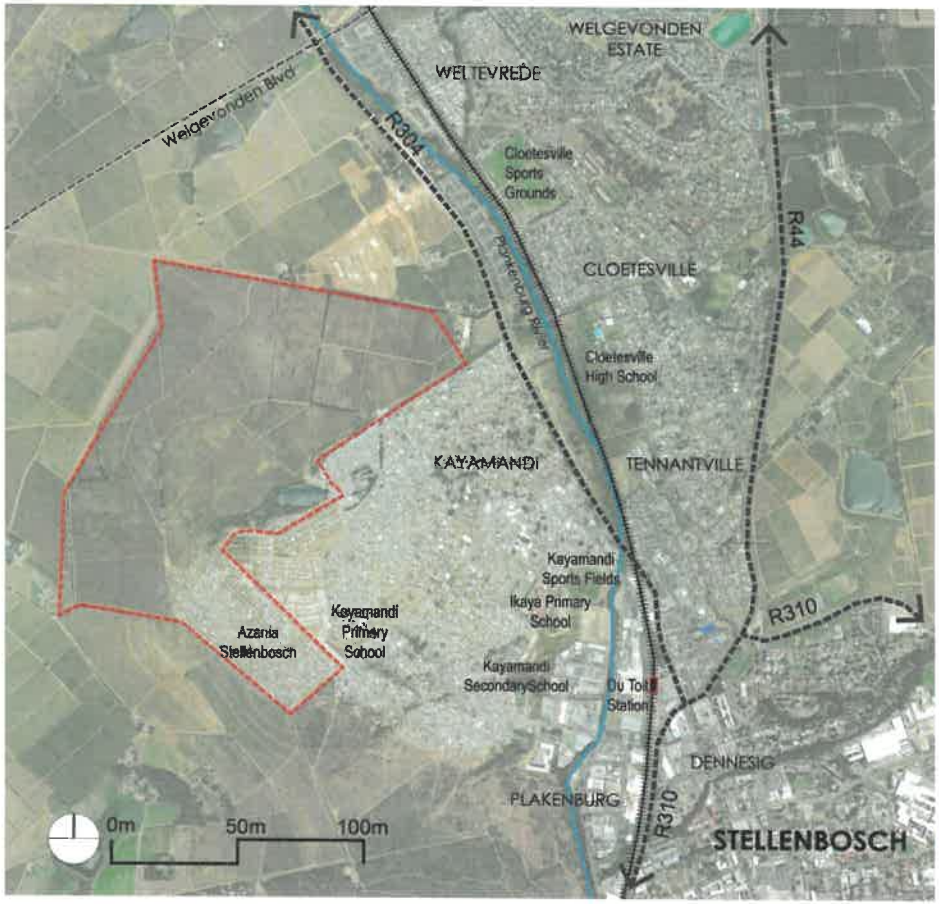
NORTHERN EXTENSION

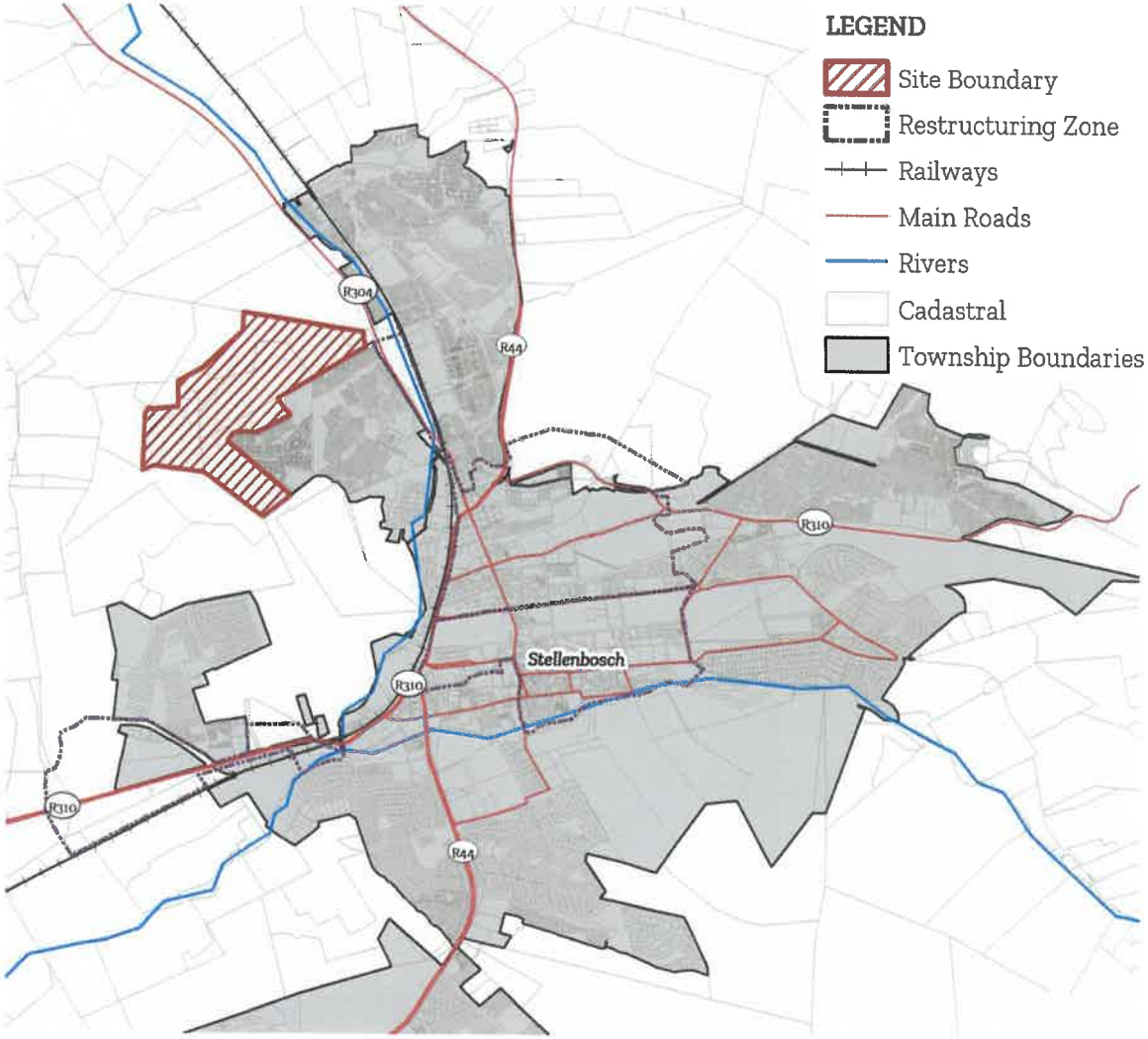
PRE-APPLICATION MEETING

30/08/2023

NPK BUILDING, FIRST FLOOR, PLANNING BOARDROOM 1

Site Location





ZUTARI

Property Details

- The site of application is made up of various farm portions all registered in the name of the Stellenbosch Municipality:

	Property description	Extent	Registered owner	Title deed number
1	Portion 23 of Farm 183	20.55ha	Stellenbosch Municipality	T17996/1962
2	Portion 36 of Farm 183	2,84ha	Stellenbosch Municipality	T35138/1974
3	Remainder of Farm 182	7,31ha	Stellenbosch Municipality	T50743/2019
4	Remainder of Farm 183	57.8ha	Stellenbosch Municipality	STF8-18/1908
5	Portion 1 of Farm 182	1.47ha	Stellenbosch Municipality	T50743/2019
6	Portion 1 of Farm 183	1,41ha	Stellenbosch Municipality	T50743/2019
7	Remainder of Portion 5 of Farm 183	48.78ha	Stellenbosch Municipality	T50743/2019

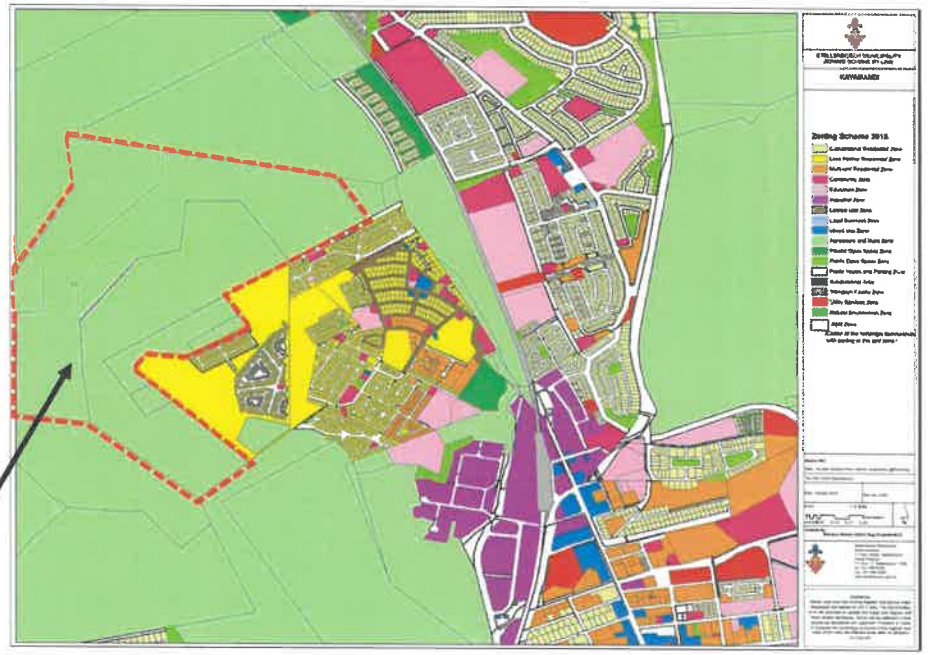
- The total extent of the site of application is 140.2ha

Current Zoning

- According to the Stellenbosch Municipality Zoning Scheme Bylaw 2019, the land parcels forming part of the Northern Extension project area is currently zoned as Agriculture/Rural Zone:

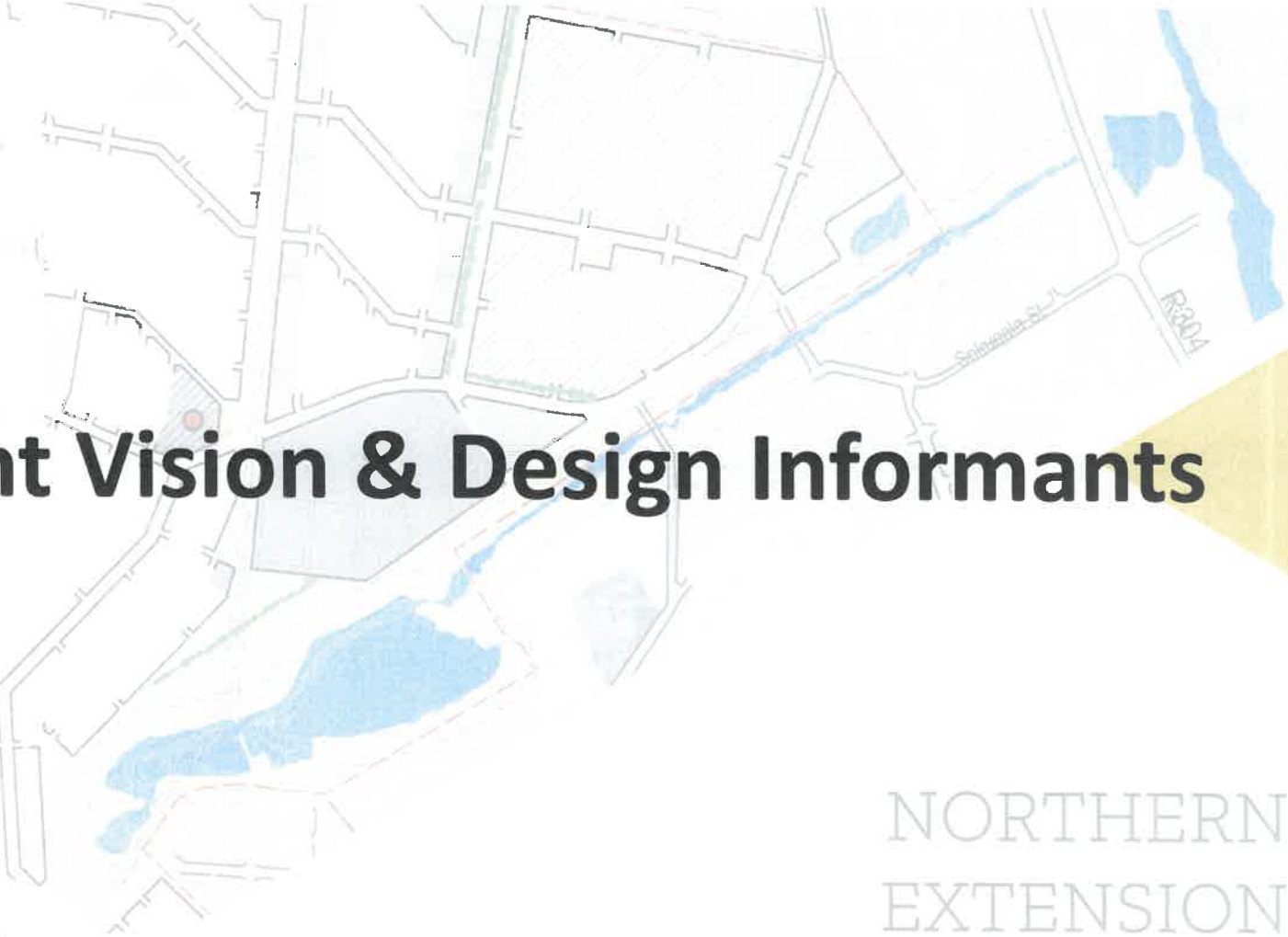
Property description	Current zoning
Portion 23 of Farm 183	Agriculture and Rural Zone
Portion 36 of Farm 183	Agriculture and Rural Zone
Remainder of Farm 182	Agriculture and Rural Zone
Remainder of Farm 183	Agriculture and Rural Zone
Remainder of Portion 1 of Farm 182	Agriculture and Rural Zone
Remainder of Portion 1 of Farm 183	Agriculture and Rural Zone
Remainder of Portion 5 of Farm 183	Agriculture and Rural Zone





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Development Vision & Design Informants

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NORTHERN EXTENSION

PRE-APPLICATION MEETING

30/08/2023

NPK BUILDING, FIRST FLOOR, PLANNING BOARDROOM 1

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Development Vision

To create an ***urban development*** that is a piece of Stellenbosch, integrated and ***connected*** into its context.

A ***safe and secure***, ***dignified living environment*** that provides a ***diverse range*** of housing, recreational, social and economic opportunities for communities living on and around the site.

Connected with the landscape, designing with the terrain and ***celebrating natural features.***






Principles Informants

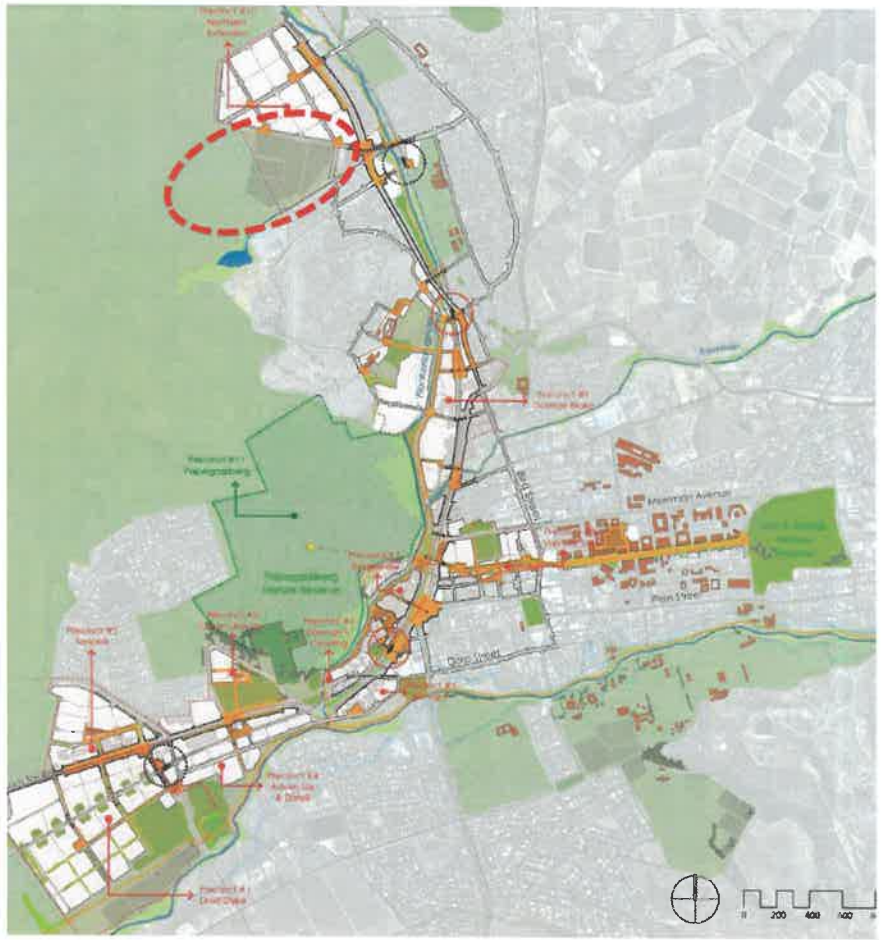
SPLUMA Principles



Spatial Justice | Spatial Sustainability | Efficiency | Spatial Resilience | Good Administration

Adam Tas Corridor Principles

- **Vibrant** - Mixed use and active
- **Compact** and Efficient – Urban form
- **Respectful** of the environment and history
- **Accessible** – Increasing access to livelihood opportunities
- **Integrated** – Seamless integration with surrounding context



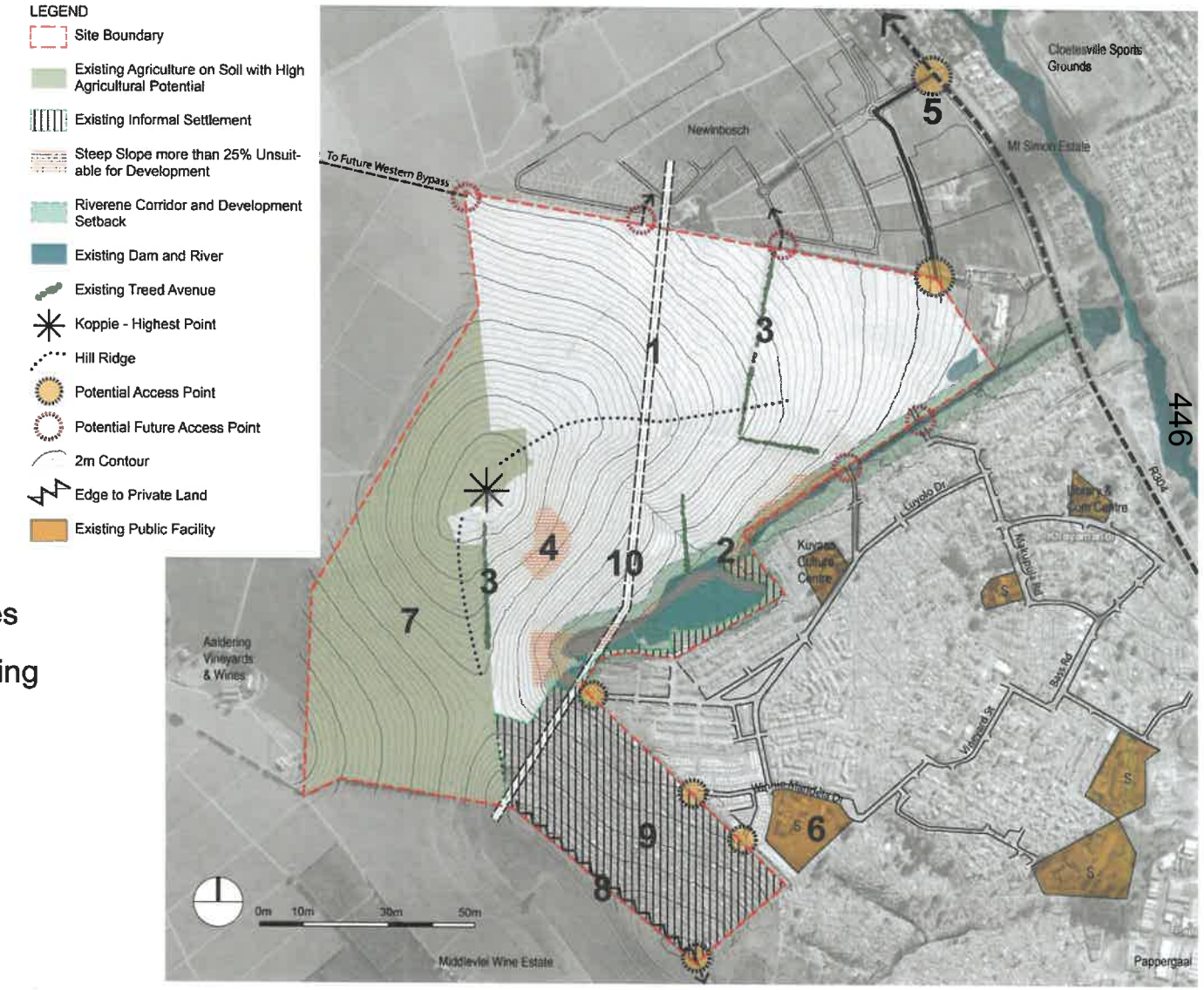
ZUTARI

Development Principles and Performance Qualities

Safe and Secure 1. Living environment that is surveilled, active, safe and secure 2. Properties to overlook streets and public spaces, providing passive surveillance and activity	**Integrated** • Seamlessly connected into the surrounding context through a network of walkable streets • Promoting links to existing public facilities	**Balanced** • Adopting a balanced approach to competing demands on the site – housing, environment, access, infrastructure, cost etc.
Inclusive • A place for all, designed to be open with equitable access for a range of users • Providing range of uses • Range of housing • Welcome to all	**Resilient and Flexible** • Respecting and protecting natural systems. Working with the landscape, topography and natural systems • Providing robust framework structure that accommodates change over time	**Walkable** • Walkable environment that is people focused • Street network to accommodated NMT facilities • Accessible network of street scaled to the pedestrian

Design Informants

1. Electrical servitude
2. River setback
3. Tree avenues
4. Slope more than 25% (unsuitable for development)
5. Limited access:
   - Entrance from R304 through Newinbosch
   - Access from Kayamandi from Winne Mandela Dr and Luyolo Drive
6. Connection to surrounding public facilities
7. Soil with high agricultural potential (existing agriculture)
8. Buffer to private land
9. Existing informal settlement

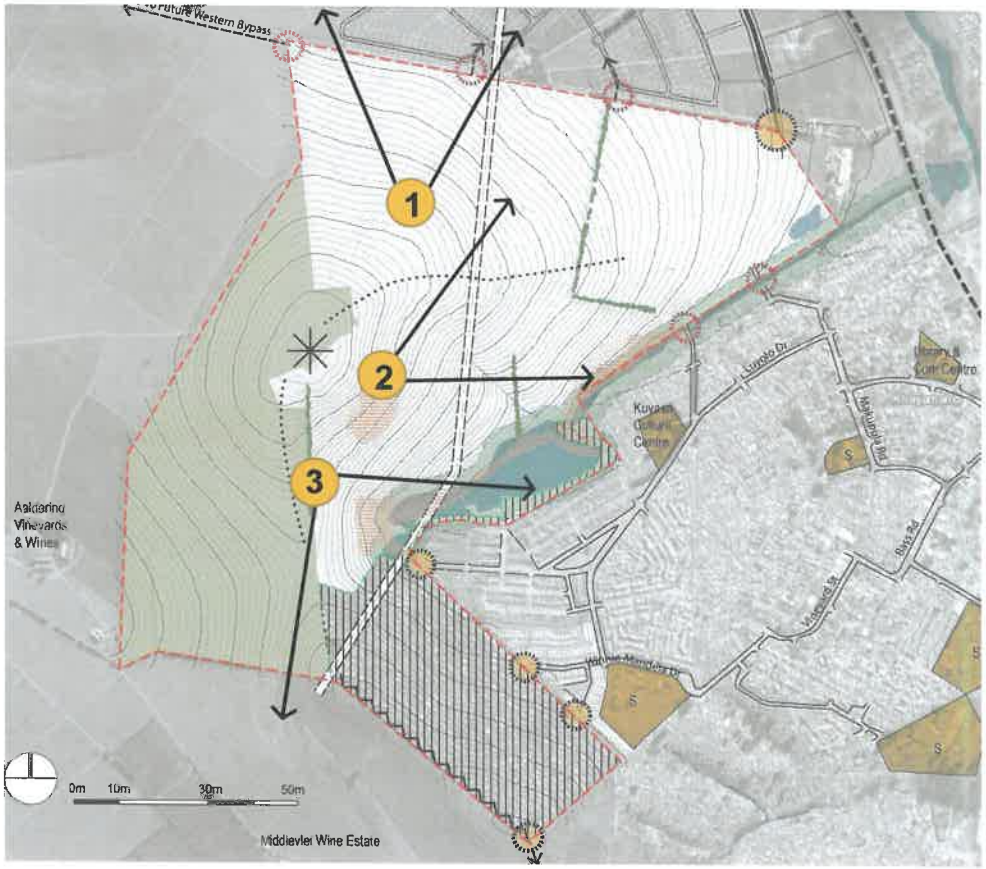


Design Informants

Views and Vistas



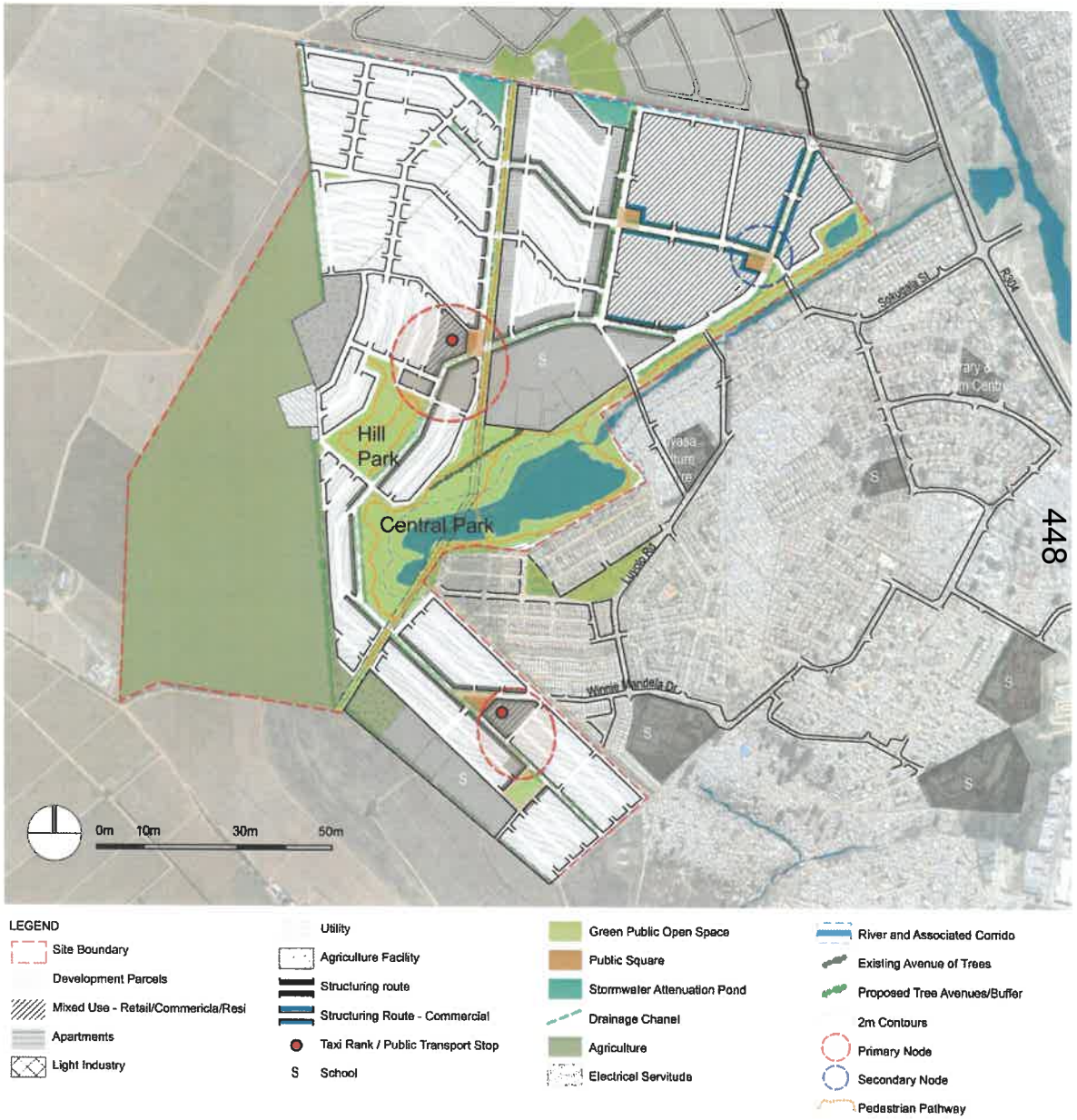






Urban Design Framework

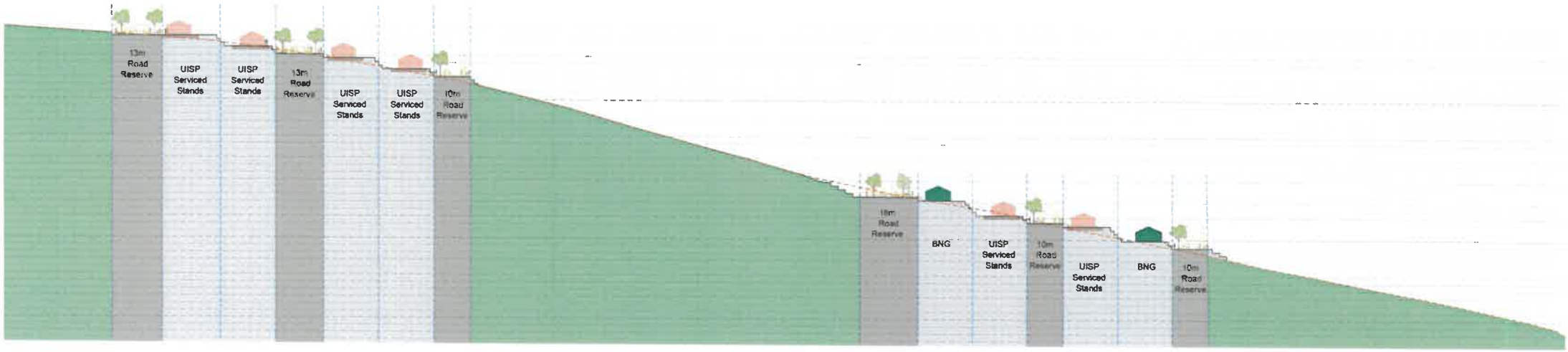
1. **Flexible development blocks:** Series of flexible development blocks that support a variety of development typologies and uses.
2. **Link and connect:** A system of structuring routes that support integration across the site and connection to the surrounding context (routes and public facilities)
3. **Mixed use:** Variety of uses including residential, MU commercial, light industry, agriculture and public facilities. Clusters of facilities located along structuring route.
4. **Integrate open space system:** Existing natural system, terrain and infrastructure guide design:
   - River and corridor and associated 'central park'
   - Linear parks associated with electrical servitude and avenues of trees
   - Hill Park
5. **Site Specific:**
   - Agriculture: farming and associated education facility
   - Slope and terrain guide street network, location of height, building typologies and stormwater system



Site Section

Some areas of the site have a slope greater than 25% which is unsuitable for development:

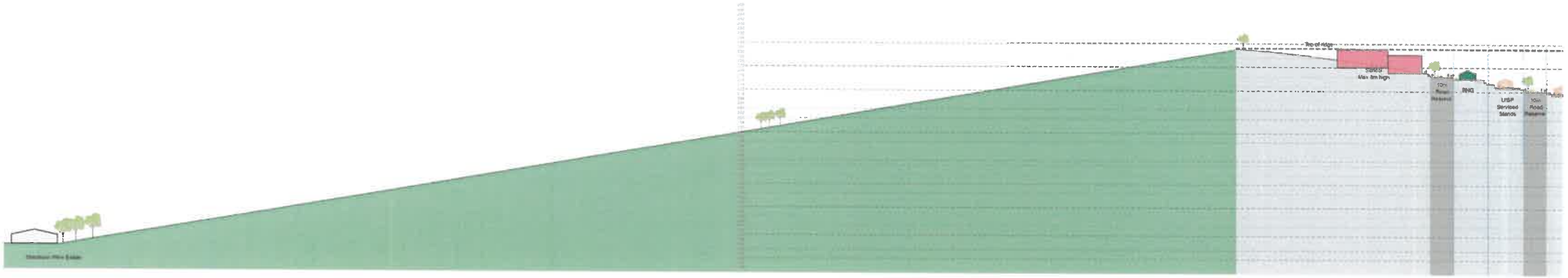




ZUTARI

Site Section





Access and Movement

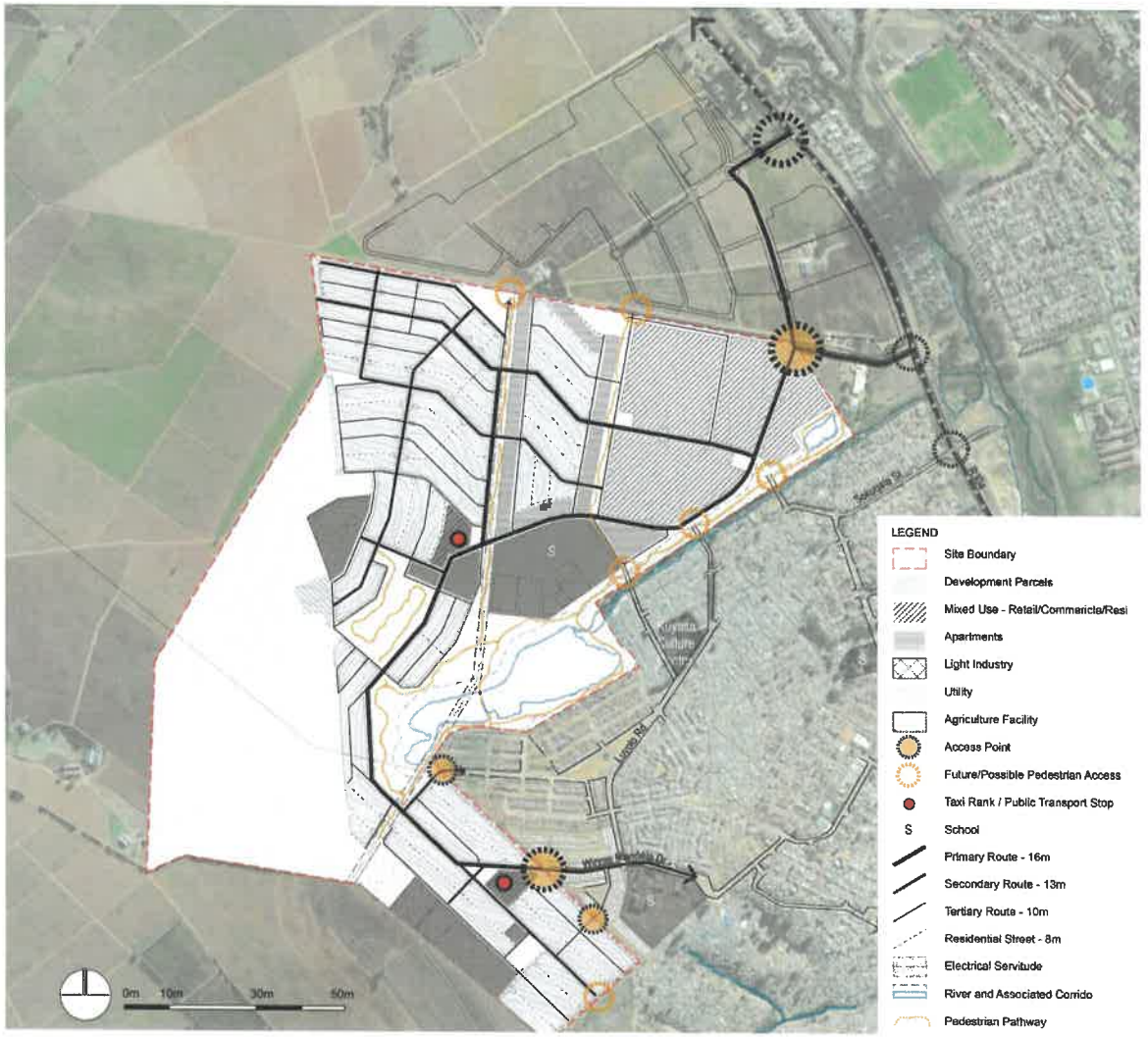
ACCESS:

- Primary access from the R304 through Newinbosch
- Secondary access from Kayamandi via Winne Mandela Drive
- Tertiary access from Kayamandi via neighbourhood streets
- Multiple future connections to fully integrate the site with its context

MOVEMENT

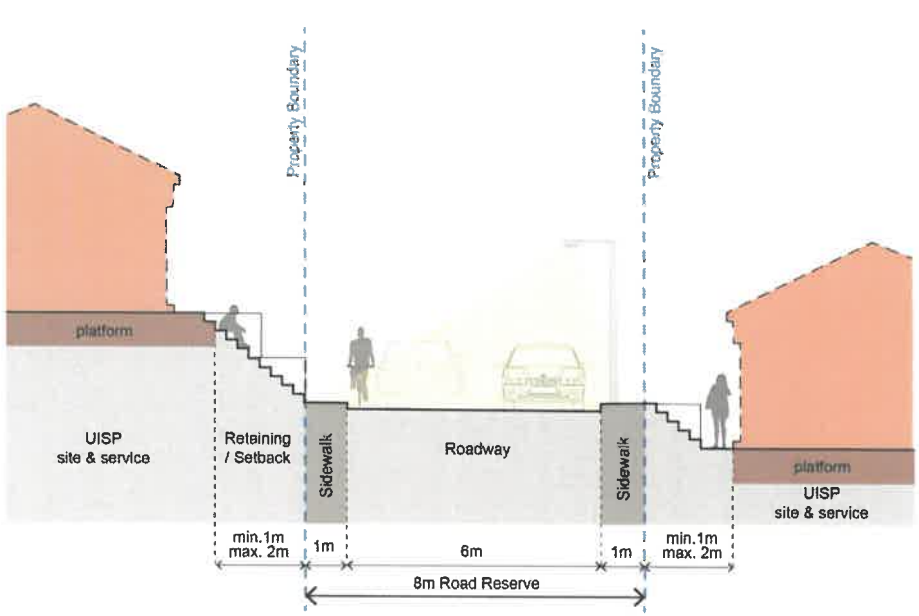
Movement network strongly influence by terrain:

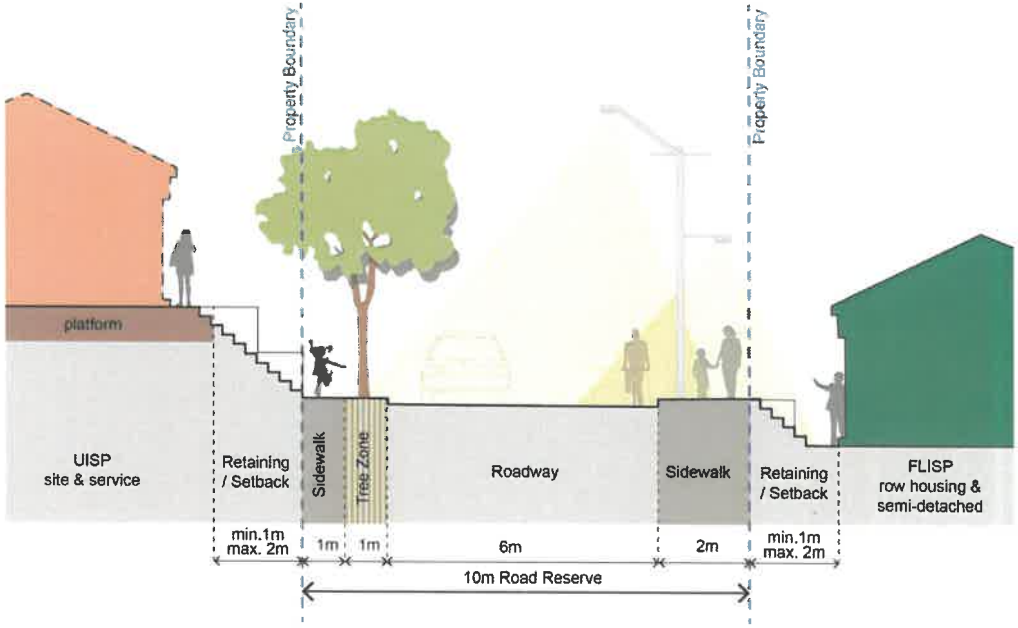
- Primary 'Y' Boulevard – 16m wide street defined by higher order building typologies
- Hierarchy of streets providing access and connection to all development parcels - secondary (13m), tertiary (10) and residential streets (8m)
- 2 taxi ranks clustered with public facilities and open space



Street Typologies

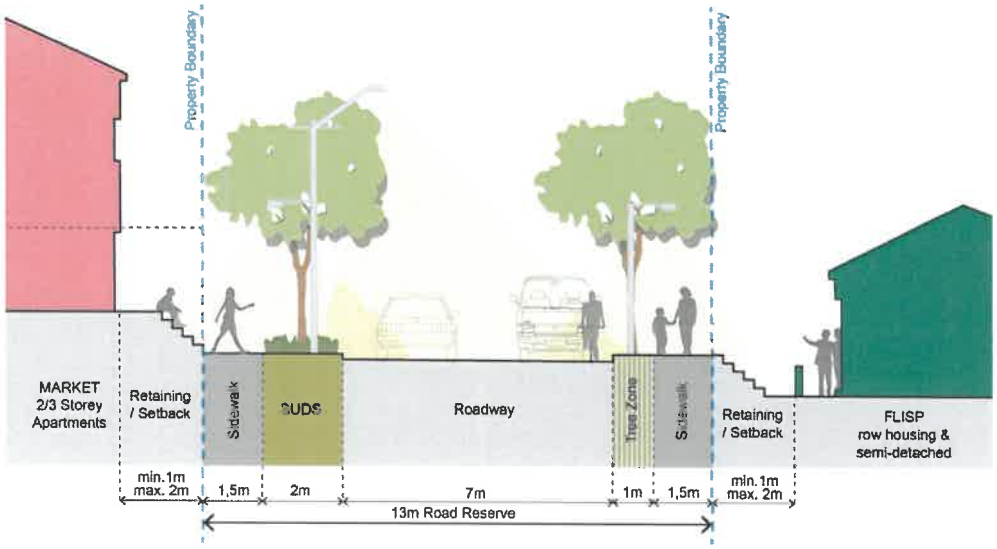
Residential Neighbourhood Streets

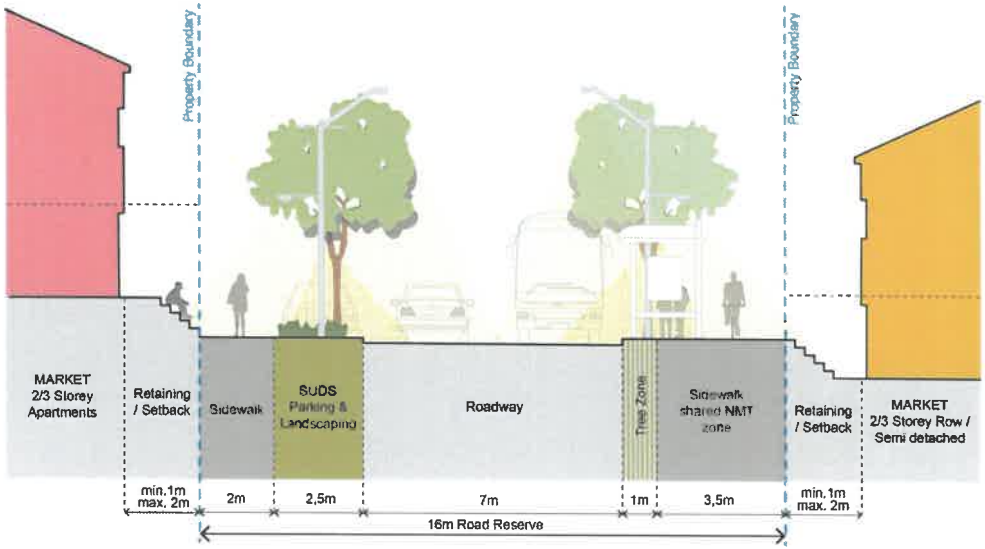




Street Typologies

Connecting Streets

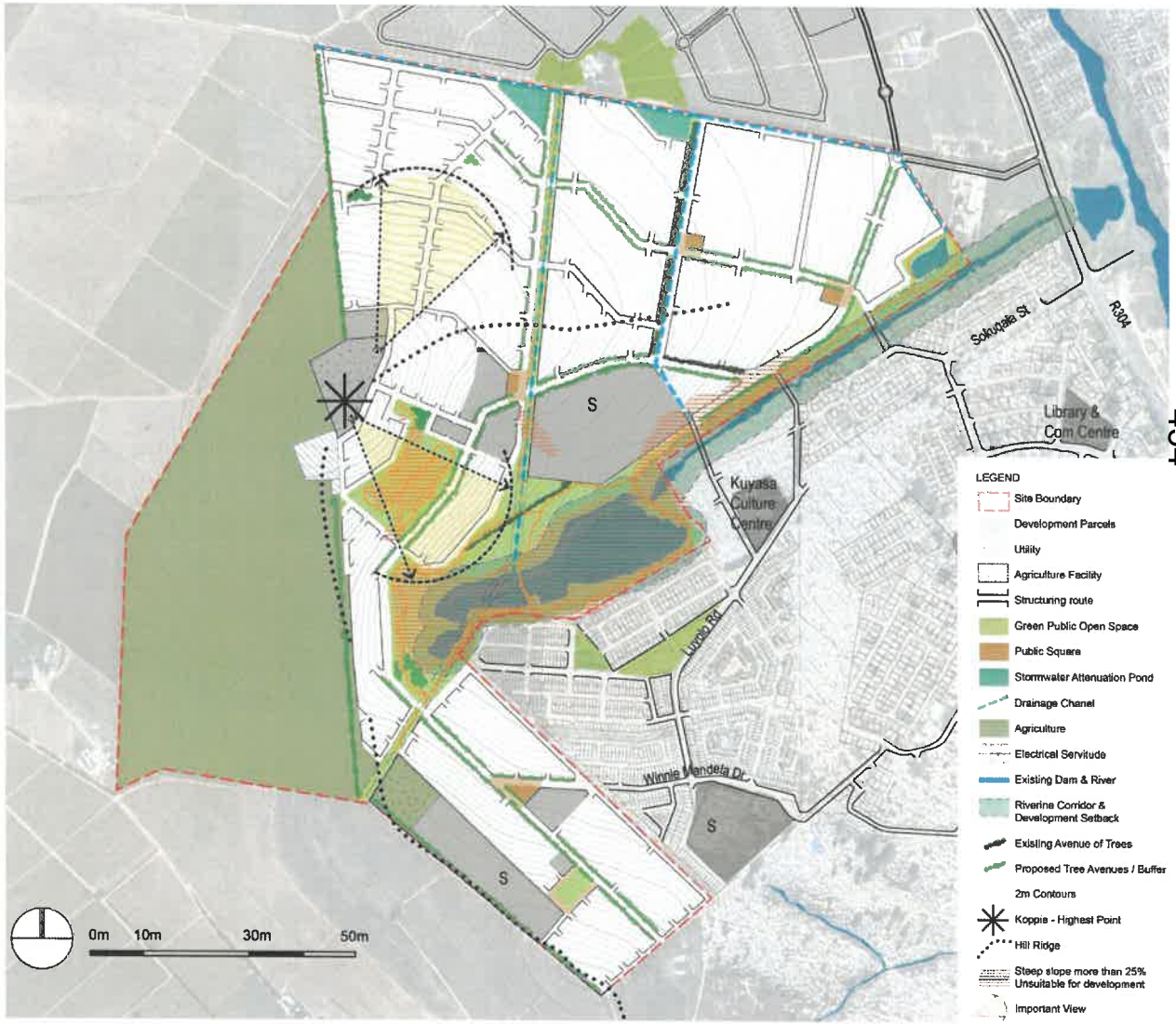




Open Space System

Integrated open space system with existing natural features.

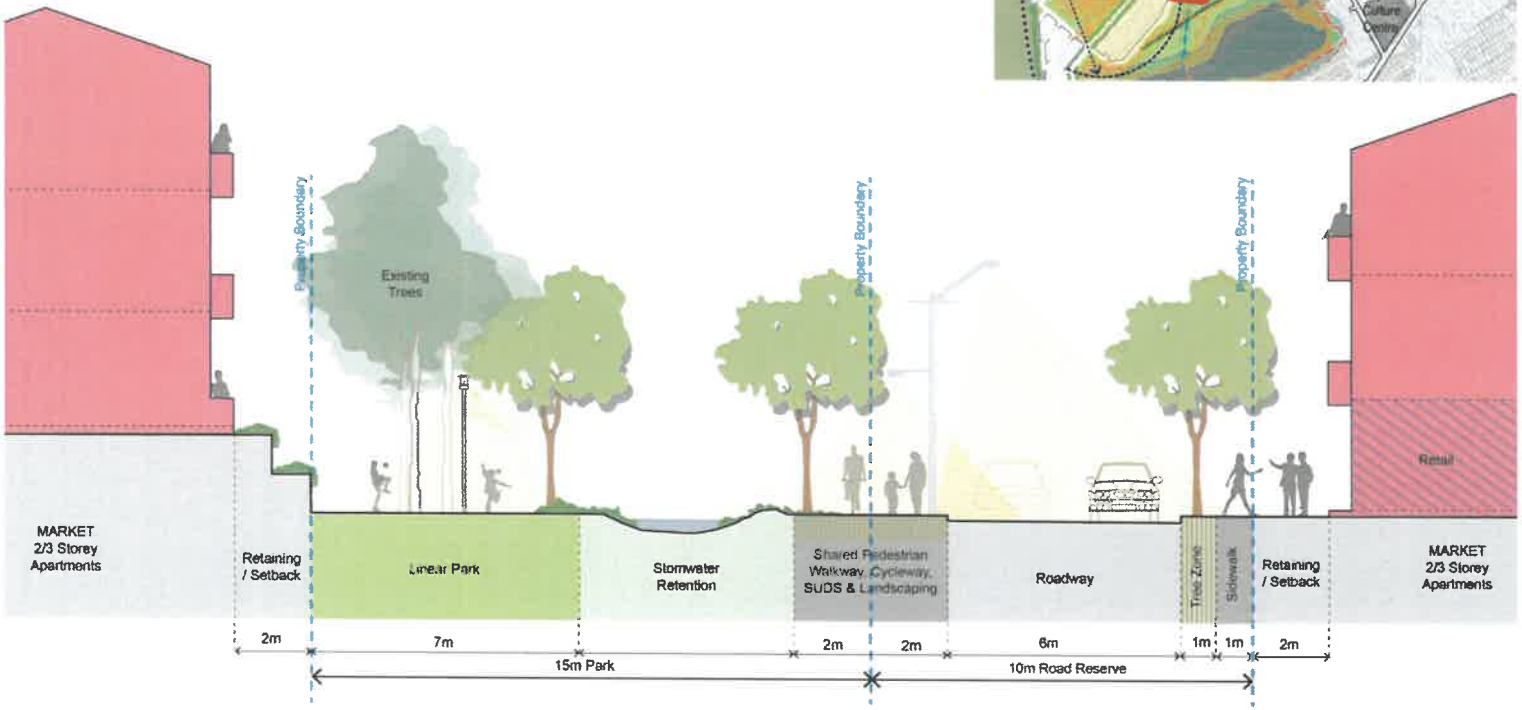
- Central Park associated with dam and river
- Linear Parks associated with electrical servitude and existing avenue of trees
- Integrated stormwater system:
  - SUDS located with the street sections and linear parks.
  - 2 attenuation ponds along the northern edge and 1 in the eastern corner
- Public squares and parks associated with primary routes and clustered with transport and public facilities
- Agriculture located in western portion on soil with high potential. Associated with education facility and 'urban farming'



Linear Open Space









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Design Approach

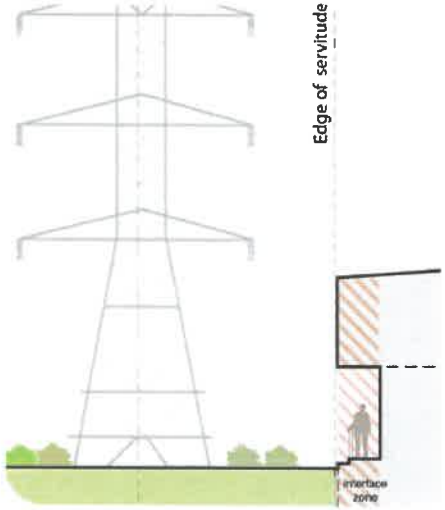
Approach to Open Space and Electrical Servitude

- Surveilled and safe
- Activated – play facilities
- Buildings wherever possible to overlook open space and electrical servitude
- Multifunctional
- Sportsfields associated with riverine corridor













Central Park

Central park for Northern Extension as well as the greater Kayamandi Area

Includes NMT pathways, play areas, exercise park, larger gathering spaces etc.

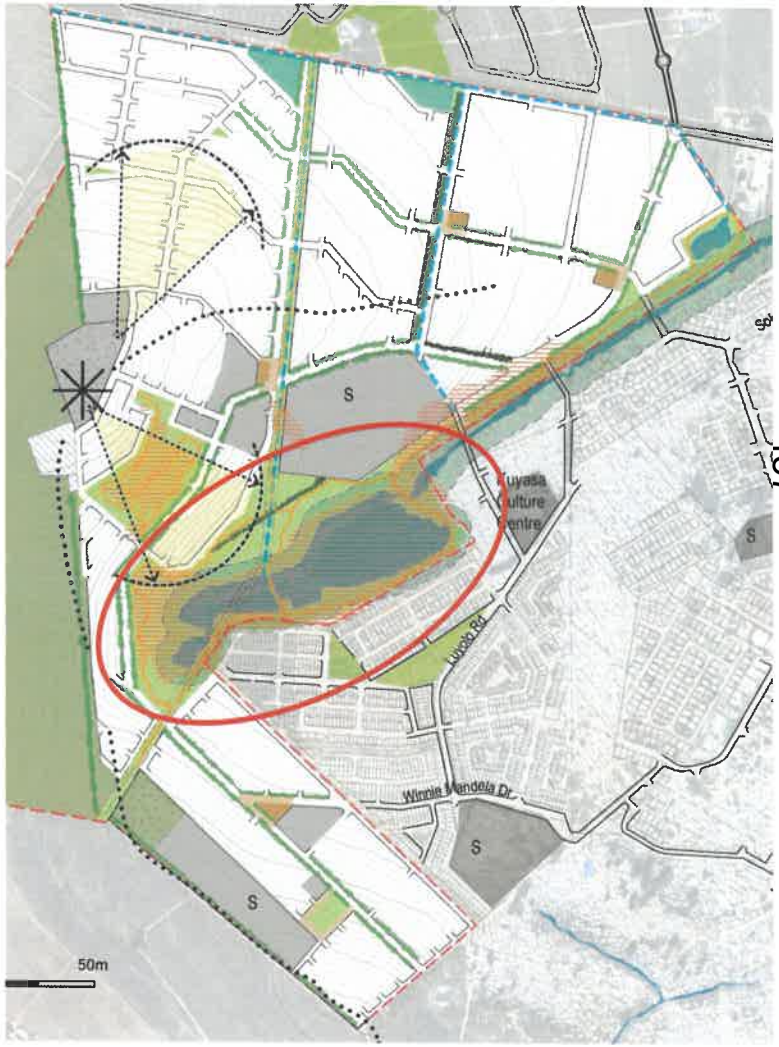












Hill Park

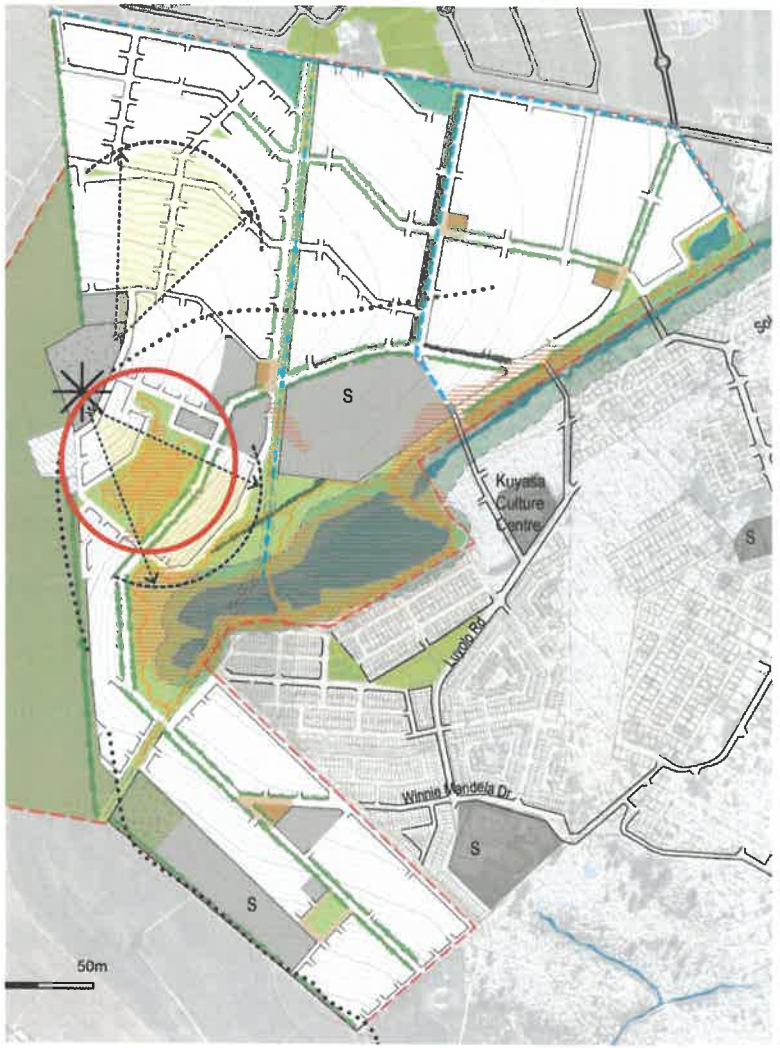
- Hill park is located on a slope greater than 25%
- Park should be activated with play equipment, bicycle pump track, pathways etc.











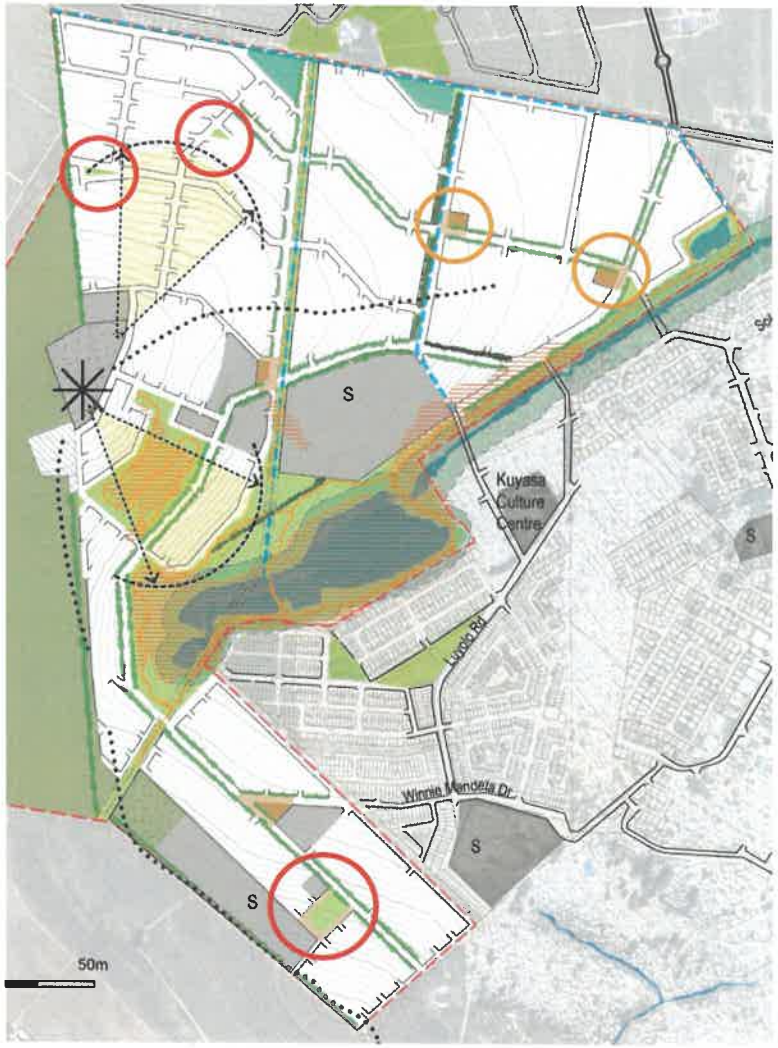
Neighbourhood Parks & Public Squares







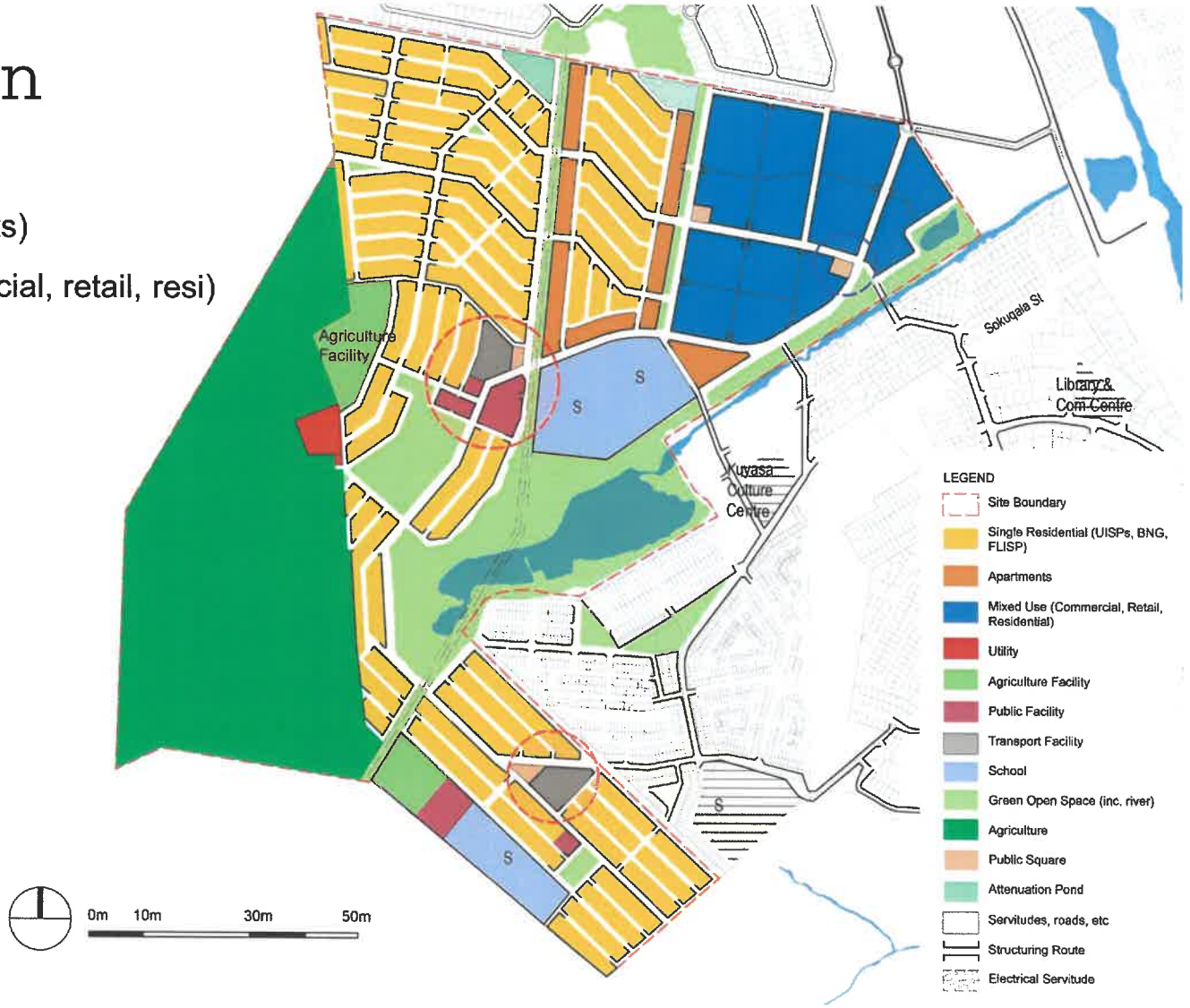




Land Use Distribution

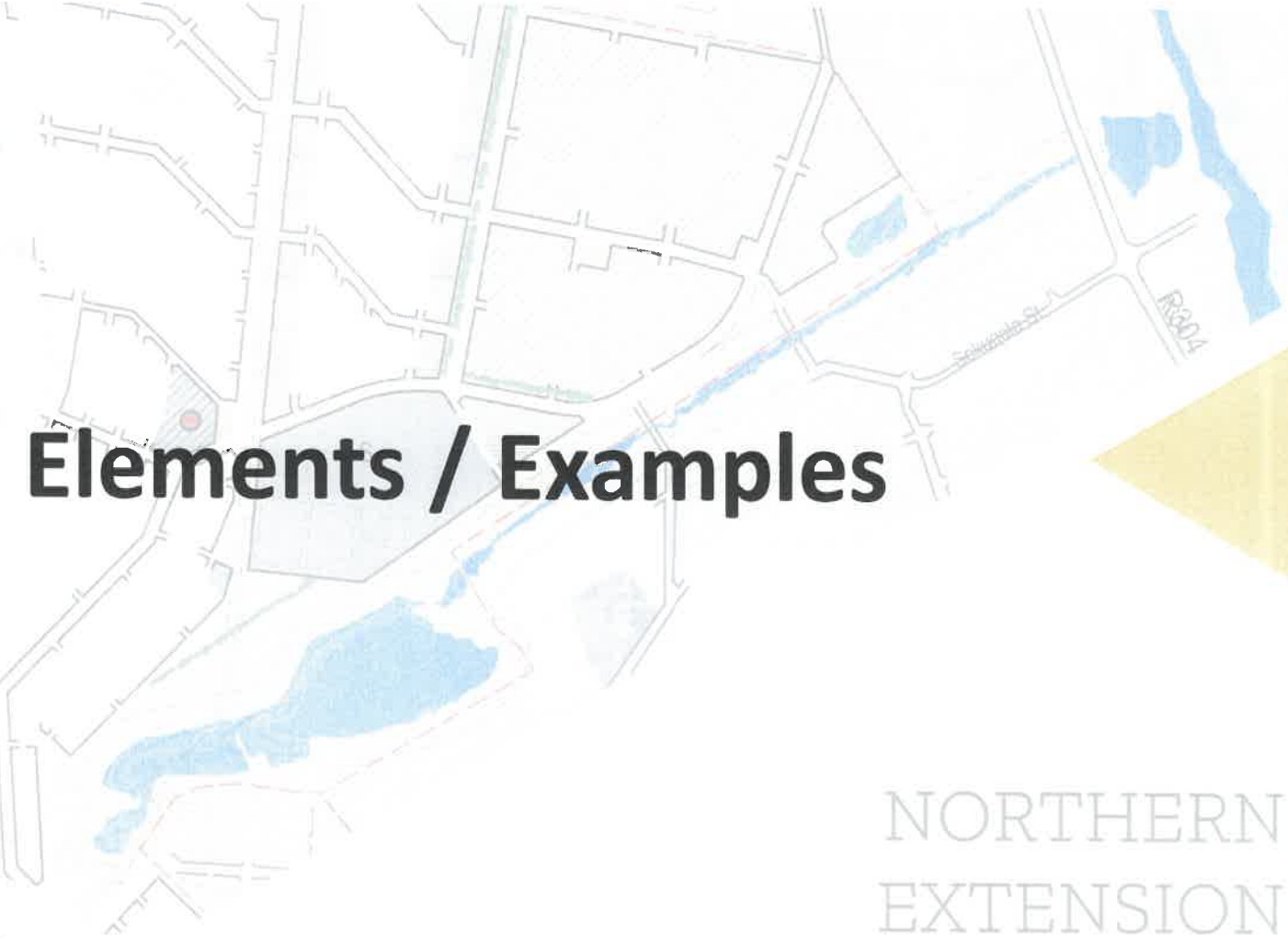
Land use includes:

- Range of housing typologies (+-/4700 units)
- Vertical mixed-use development (commercial, retail, resi)
- Public transport nodes
- Range of open space typologies
- Range of public facilities including:
  - 2 primary schools
  - 1 secondary school
  - 17 small creches/day cares
  - 5 Place of workshop
  - 1 post office
  - 1 community hall
  - 1 Primary health clinic
  - 1 ICT access point



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Design Elements / Examples

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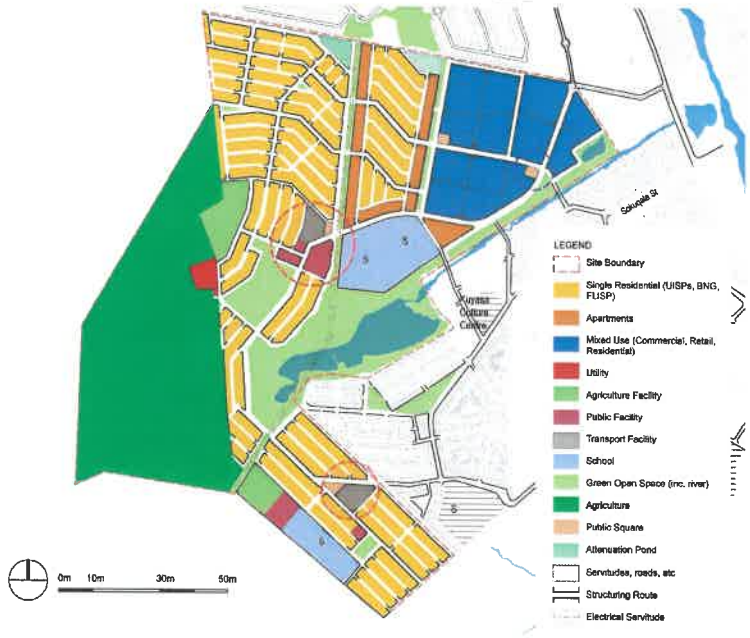
NORTHERN EXTENSION

PRE-APPLICATION MEETING
30/08/2023
NPK BUILDING, FIRST FLOOR, PLANNING BOARDROOM 1

Design Elements

Approach to Public Facilities

- Clustered
- Compact (reduced school property size)
- Shared
- Landmark feature
- High quality – a safe place for communities to come together
- 2 to 3 storeys







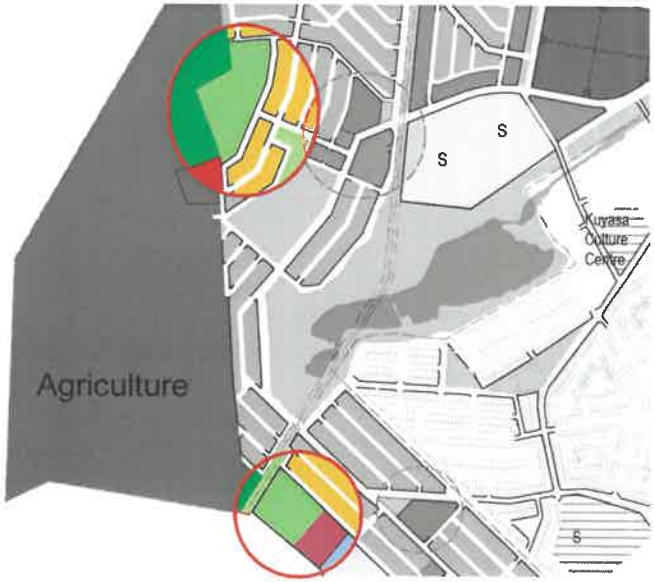


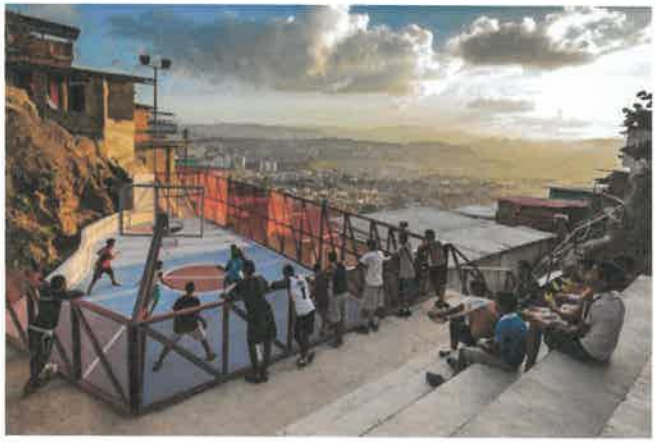
Design Elements

Agriculture Facilities

- Agriculture is a key element to the site's context and sense of place.
- A large portion of the western edge of the site remains agriculture with associated education facilities associated with it:
  - Training college
  - Hydroponics and urban farming
- These facilities occur in the highest point of the site. They must be well-designed, landmark facilities contributing to the sense of place and integrated with the site's landform.
- Maximum 2 storeys (8m high)









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Design Elements

Approach to Mixed-use

- Vertical and horizontal mixed-use
- The area assigned to mixed-use is +/-14ha. The blocks drawn are superblocks and will be broken up into smaller development parcels where necessary.
- Heights would vary between 3 – 5 storeys.
- Land use mix includes residential, office, retail, and public space.
- Retail could range from line shops to 'bigger box; stores such as Food Lover Market to even a small retail centre but as much as possible would include a vertical residential mix.













Design Elements

Approach to Housing

Guidance from ATC Precinct 10 Guidelines:

- A range of development typologies include semi-detached units, row houses and multi storey apartment blocks
- Apartment blocks should include private, internal, landscaped courtyards accommodating parking if necessary
- Building should range from 2 to 4 storeys. with the greatest height along the R304
- Range of funding mechanisms







PRECEDENT EXAMPLE: District 6, Cape Town

The Development Block designed to enable a range of typologies

(Drawing reference: Jacupa Architects and Urban designers)







Development Block Typologies

- Maximum flexibility – allowing for blocks to be broken up in different ways and accommodating varying approaches to land use, building typology and density
- Flexible blocks to accommodate changing needs over time
- Variety of housing typologies and erf configurations that support flexibility in relation to market / income groups, financing options, density and mix of typologies

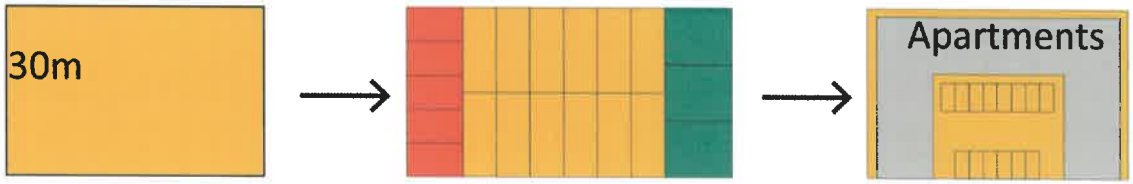
Erf size 6m x 15m = 90sqm – Serviced Sites / BNG

Erf size 7m x 15m = 105sqm – Serviced Sites / BNG

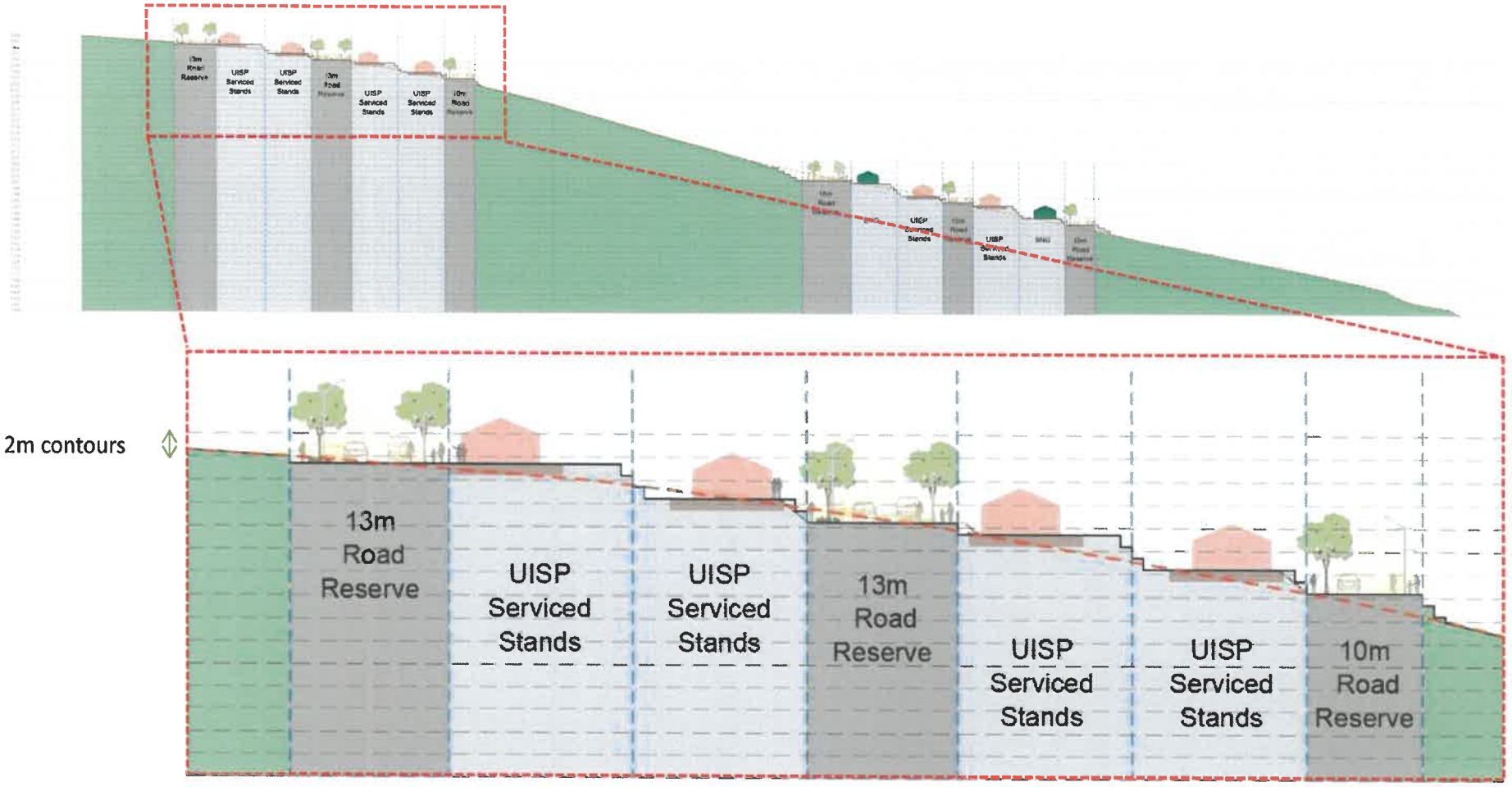
Erf size 8m x 15m = 120sqm – GAP/FLISP: Freestanding /Semi-detached/row house

Erf size 9m/10m x 15m = 135sqm (up to 180sqm) – Bonded/Market: freestanding

Flexible Block Depth:



Site Section



STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE O

KANTEY & TEMPLER
CONSULTING ENGINEERS
ESTABLISHED 1953

SUMMARY REPORT ON SUBSOIL CONDITIONS AT FARMS 182 &183 KAYAMANDI STELLENBOSCH

NOVEMBER 2021

Ref: 16455GG

Details of this report

KANTEY & TEMPLER
CONSULTING ENGINEERS
ESTABLISHED 1953

Client Name	ZUTARI
Document Title	Kayamandi Geotechnical Report
K&T Project Reference	16455GG
File Name	16455GG Kayamandi Housing Feasibility- Summary Geotechnical Report
Prepared By	Leroi Celliers
Reviewed By	Frank Du Plessis

Report Revision Record

Revision	Date	Description
0	12/11/2021	SUMMARY REPORT

This report has been prepared by Kantey & Templer (Pty) Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

For and on behalf of Kantey & Templer (Pty) Ltd

For and on behalf of

Kantey & Templer (Pty) Ltd

Approved by: F. Du Plessis

Signed: 

Position: Associate Director

Date: 12/11/2021

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SUMMARY REPORT ON SUBSOIL CONDITIONS AT FARMS 182 &183 KAYAMANDI STELLENBOSCH

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SUMMARY REPORT ON SUBSOIL CONDITIONS AT FARMS 182 &183 KAYAMANDI STELLENBOSCH

1. TERMS OF REFERENCE

In terms of written instructions Kantey & Templer was requested by Mr. Chris van der Walt of Zutari Consulting Engineers, on behalf of the client, to investigate and report on subsoil conditions at Farm 182 and Farm 183, Stellenbosch. The report will form part of a housing development feasibly assessment required for the site.

The development area measures approximately 135ha with 4000-6000 residential opportunities proposed for the site.

2. SUMMARISED SCOPE OF INVESTIGATION

The field investigation comprised the excavation of fifty five (55) machine dug trial holes put down to depths of up to approximately 3.0m below existing ground level at pre-selected readily accessible locations across the site.

Subsoil conditions were assessed by detailed examination of the in-situ materials exposed in the trial holes using standard visual and tactile procedures. Disturbed soil samples were extracted from selected soil horizons in the trial holes, these submitted to Messrs Steyn Wilson Laboratories for testing to determine the engineering properties of the site soils.

In addition, Dynamic Cone Penetrometer (DCP aka DPL) tests were carried out next to the trial holes. The tests were all carried out from ground level. In this test, a cone tipped steel rod is driven into the ground by means of a standardised falling weight, the penetration per blow providing a useful indication of in-situ density.

3. SITE DESCRIPTION

The development area is located on farms 182 and 183 situated to the north of Stellenbosch. The site is bounded by agricultural land to the north, west and south. The existing Kayamandi residential area is located to the immediate east of the site.

Topographically the development area includes a substantial hill at the centre of the site with footslopes fanning out towards the erf boundaries. A small wetland exists in the north eastern part of the site.

There is evidence of past agricultural activities across the entire site with derelict vineyards still present. Vegetation largely comprises low grasses and old vines. Mature trees are located along pre-existing farm roads.

Two earth dams are situated along the eastern side of the site separating the proposed development and the existing Kayamandi residential area.

4. SITE GEOLOGY AND SOILS PROFILE

Based on published geological data and the results of previous geotechnical investigations undertaken by Kantey & Templer in the Welgevonden – Kayamandi area, the site is known to be situated in terrain composed of and underlain at depth by weathered meta-sedimentary strata largely (phyllitic shales) of the Malmesbury Group, Tygerberg Formation and very locally, granites of the Cape Granite Suite.

Overlying the shales is residual material and naturally transported colluvial soils of variable composition and thickness.

Three distinct horizons were identified during the field investigation these being:

- Naturally Transported Soils
- Residual Soils
- Bedrock,

These can be described as follow:

Naturally Transported Soils

The naturally transported soils mantle the bulk of the investigation area generally ranging from silty to clayey fine grained sands to fine-grained sandy silts containing scattered to occasional gravel and grit; locally a poorly developed pedogenic horizon occurs within the naturally transported soils, this typically occurring in the form of more ferruginous gravels. The overall density of these soils were found to be of loose to medium dense.

Residual Soils

Derived from the in-situ weathering and decomposition of the phyllitic shales which form the bedrock in the area, found to underly the naturally transported soils from as little as 0.17m to more than 3.00m depth. These soils are typically composed firm to very stiff fissured to shattered clayey silt. Where termite action has reworked these soils it tends to a silty clay. Locally, the bedding structure of the parent rock is still preserved within the residual soils. The residual soils often tends to completely weathered very soft rock.

Bedrock

Intersected in a limited number of trial holes only and predominantly in the elevated parts of the site. Bedrock was intersected from as shallow as 0,67m and ranged from completely to highly weathered, steeply dipping, jointed to highly fractured very soft rock to medium weathered soft to medium hard rock Shale.

Granite was intersected locally but limited to 'intrusions' into the Malmesbury Group strata. These 'intrusions' tended to be in the form of completely weathered and residual nature only.

Of note is that the upper 0,7 to 1,5m of the profile occurs in agriculturally reworked form with the in-situ structure and strength highly variable. Not only the upper transported soils are reworked. Where occurring at shallow depth, even the residual soils and bedrock have been found to be reworked (ripped/ploughed).

5. GROUNDWATER CONDITIONS

Groundwater was not intersected in any of the trial holes, soil moisture generally ranging from slightly moist to very moist.

As the field investigation was undertaken during the summer months, the groundwater conditions encountered should not be considered representative of conditions throughout the year.

During periods of sustained winter rains, a shallow perched water table will develop within the transported profile with strong subterranean seepages possible near/above the contact between the finer grained clayey/silty soils and the overlying more sandy materials. By implication, groundwater levels could rise to within 1,0m of existing ground level, in particular

along the lower lying parts of the site. Such seepages will be intersected in trenches and could emanate from the sidewalls of deep excavations or cuttings.

Consequently, box cuts (access roads), terraces and other excavations formed deeper than the existing ground level are likely to intersect groundwater during periods of high rainfall. Suitable drainage measures will therefore have to be provided for the control and removal of such water.

It should also be noted that during the rainy season, surface seepages are likely to result in unstable/matrassing subgrade conditions over access/construction road and deep cut areas, this largely associated with either the waterlogged conditions of the upper more sandy soils and, in deep cut, the clayey moisture sensitive residual soils. It is thus evident that special attention will need to be paid to drainage, not only of the building areas but also the surrounds, during final design of the bulk earthworks and fixing of site levels.

In addition to the seepages discussed above, the impervious clayey subsoils will limit water penetration and result in *significant surface runoff and ponding over large parts of the areas prepared as cut platforms.*

The timing of construction must be planned with the fluctuating groundwater conditions in mind and the construction of foundations, trenching, terracing, subgrade preparation etc. programmed for the dry summer months where possible.

6. GEOTECHNICAL EVALUATION

6.1 Engineering & Material Characteristics

6.1.1 Road Construction

Extensive sampling was undertaken of the upper site soils at anticipated subgrade level to determine the suitability of these soils for use as layerworks in the design of pavement structures. The bulk of these tests were undertaken on the more sandy to clayey naturally transported soils.

The laboratory results indicated that these soils, in particular where occurring in reworked form, are of poor strength (CBR strength) often not achieving the minimum requirement of G9 lower selected subgrade. Even where classifying as a G9 quality material in terms of the COLTO standard specification, these soils often contain significant percentages of fines

which would render the material moisture sensitive and difficult to compact under unfavourable moisture conditions.

Of significance is the loose/soft consistency of the upper agriculturally reworked soils. These low consistency materials extend up to 1,55m depth and well deeper than the anticipated box cut levels.

Given the poor CBR properties of the transported soils both in reworked and natural form, some of this material may have to be removed and replaced by imported selected materials to satisfy the requirements of the pavement layerworks design.

No base, sub-base or upper selected materials was identified or intersected on site, these will have to be imported from commercial sources.

6.1.2 Services Construction

None of the soils encountered during the field investigation will be suitable for use as either pipe bedding or selected granular material. These materials will accordingly have to be imported where required on site. The naturally transported soils could potentially be a source of selected fill. These soils will however have to be carefully identified and approved prior to construction.

6.1.3 Bulk Earthworks

Given the sloping topography of the site it is anticipated that extensive earthworks will be required to create level platforms over the development areas.

Only the naturally transported soils could be considered a potential source of fill. The residual soils contain significant volumes of fines. This will render it *highly moisture sensitive* and extremely difficult to compact to any meaningful density.

It should however be noted that the naturally transported soils also often contain high percentages of soil fines. Compaction could therefore also prove challenging with densification very close to or at optimum moisture content (OMC) essential. In this regard it is recommended that the contractor undertakes tests to the optimise layer thickness and compaction plant settings.

The suitability of the fill platforms prepared for the construction of structures and roadways must also be verified by extensive in-situ testing.

Where soils are to be placed as fill platforms, it is recommended that the low density in-situ reworked soils be improved *prior to placement of the platform fill*.

Given the fine grained nature of the bulk of the site soils dust can be expected during bulk earthworks operations, in particular during the dry summer months. This dust could impact agricultural activities in the area and must be taken into account when construction is planned and programmed.

6.2 Slope Stability and Erosion

No evidence of existing slope instability was observed on site. Despite the relatively steep falls across parts of the development areas no slope instability issues are anticipated where the current site topography is retained.

Surface erosion is however considered a real risk. With evidence of deeply formed 'channels' cut into the site soils where concentrated flows of surface runoff has occurred, it is recommended that good engineering principals be followed when runoff measures are designed for the site. These should include:

- prevention of concentrated flows of runoff over exposed/unpaved areas
- lining of channels
- allowance for adequate discharge of the runoff.
- design of the stormwater system with due consideration for the volumes of water which could be generated during periods of high rainfall.

6.3 Excavation classification

The following assessment can be made with regard to excavation conditions of the various site soils:

Naturally transported soils: Given the 'unconsolidated' nature of the naturally transported soils, no significant problems should be experienced in excavating these soils using conventional earthmoving equipment. The bulk of the transported site soils

will accordingly classify as "soft" excavation in terms of SANS 1200D.

Residual Soils: The residual soils will equally classify as "soft" excavation in terms of SANS1200D; where these soils occur as highly weathered very soft rock shale, more effort will be required to remove the material. It is therefore recommended that allowance be made for a small percentage of "intermediate" material where excavations are taken into the residual soils.

Bedrock: The bedrock, where reworked/ripped or extensively fractured, will classify as "intermediate" excavation in terms of SANS 1200D with the more consolidated rock mass at depth classifying as "hard rock" excavation.

The bulk of the site, with the exception of areas underlain at shallow depth rock will classify as being suitable for excavation by manual labour.

6.4 Impact of Geotechnical Character

Using the schedule of generic subsidy variations for site and founding conditions as provided by GFSH-2 Specification, the relevant categories of subsidy variation have been evaluated as follows in the table below:

CATEGORY OF SUBSIDY VARIATIONS - SITE CONDITIONS	VERIFICATION CRITERIA	CONDITIONS PREVALENT ON SITE
Seepage / groundwater		
Category 1	Permanent or perched water table less than 1,0 m below ground surface	**YES**
Category 2	Permanent or perched water table less than 1,5 m below ground surface.	**NO**
Erodability of soil		
	Uppermost soil horizon (0 to 750mm) over erf is classified in terms of the Unified Soil Classification as SP, SM, CL or CH and average slope of erf measured in any direction is steeper than or equal to 1:7,5.	**YES**
Difficulty of servicing of land due to slopes		
Type 1 site	Average slope measured along a 100 metre line in any direction from any of the boundaries of the erf is flatter than 1:100.	**NO**
Type 2 site	Average slope measured across the erf in any direction exceeds 1:20 but is flatter than or equal to 1:10.	**NO**
Type 3 site	Average slope measured across the erf in any direction exceeds 1:10 but is flatter than or equal to 1:7,5.	**NO**
Type 4 site	Average slope measured across the erf in any direction exceeds 1:7,5 but is flatter than or equal to 1:5.	**YES**
Type 5 site	Average slope measured across the erf in any direction exceeds 1:5	**NO**

Difficulty of excavation		
Type 1 condition	Average slope measured across the erf in any direction is flatter than or equal to 1:10 and between 10 and 40% of material to a depth of 1,5 metres below pre-development level is classified as hard rock excavation.	**NO**
Type 2 condition	Average slope measured across the erf in any direction is flatter than or equal to 1:10 and in excess of 40% of material to a depth of 1,5 metres below pre-development level is classified as hard rock excavation.	**NO**
Type 3 condition	Average slope measured across the erf in any direction is steeper than 1:10 and the material to a depth of 1,5 metres below pre-development level is classified as Boulder Class B excavation.	**NO**
Type 4 condition	Average slope measured across the erf in any direction is steeper than 1:10 and the material to a depth of 1,5 metres below pre-development level is classified as Boulder Class A or Hard Rock excavation.	**NO**
Precautionary measures in sites underlain by dolomites/ limestones	Class P(dolomites/limestones-D2/D3) site class designation in accordance with 2.5 and 2.8 of Part 1 of Section 2 of the NHBRC Home Building Manual	**N/A**

CATEGORY OF SUBSIDY VARIATIONS - FOUNDING CONDITIONS	VERIFICATION CRITERIA	CONDITIONS PREVALENT ON SITE
Expansive soils		

• Class H1 • Class H2 • Class H3	Site class designations classified in accordance with 2.5 of Part 1 Section 2 of the NHBRC Home Building Manual	S1
Compressible and potentially collapsible soil		
• Class C1 • Class C2		
Compressible soils		
• Class S1 • Class S2		
Variable		
• Class P (Dolomites/Limestones - D2) • Class P (Dolomites/ Limestones - D3	Class P site class designation in accordance with 2.5 and 2.8 of Part 1 of Section 2 of the NHBRC Home Building Manual.	N/A
• Class P (Mining subsidence)	Class P site class designation in accordance with 2.5 of Part 1 of Section 2 of the NHBRC Home Building Manual.	N/A

7. FOUNDATION RECOMMENDATIONS

The assessment of founding conditions in terms of Watermeyer, Tromp and the Joint Structural Division is based on a single level structure supported on a standard spread footing (600mm wide) exerting a bearing pressure of 50kPa at 0,5m depth.

The DCP test results confirmed the poor strength of the reworked soils underlying the site to 1,55m depth with founding conditions improving thereafter. Where founding in the compressible soils at a depth of 0,5m, settlement of between 10 and 20mm is anticipated. Founding conditions at the site can accordingly be classified as S1.

As these predicted settlements will result in unacceptable damage to conventionally constructed structures, consideration will have to be given to the following solutions:

- Soil Improvement and Conventional Founding

  For this option the compressible, reworked soils underlying the site to depths of up to 1,55m must be removed and replaced in well compacted (between 95-97% Mod AASHTO density) layers. Once compacted the footings must be taken *through* the

compacted soils into the undisturbed soils at depth. Surface beds can be placed directly on the improved soils.

- Soil Improvement with Raft Foundation

  As an alternative to founding at depth as recommended above, consideration can be given to the use of stiffened raft foundations constructed on the improved soils.

- Founding at Depth

  Conventional spread footing foundations can be used for this option provided the footings are taken through the upper compressible soils and onto/into the undisturbed soils underlying the site to 0,70-1,55m depth. Surface beds will however have to be suspended.

In addition to the above, consideration should be given to:

- nominal reinforcement of the foundation brickwork (between footings and surface beds) using brickforce in each layer;
- reinforcement of the brickwork above door and window openings (making liberal use of brickforce);
- the introduction of strategically positioned control joints (vertical) in all long masonry walls, again for the introduction of some flexibility in the structures.

8. SITE CLASS DESIGNATION

Given that settlements of between 10-20mm are anticipated where founding at shallow depth, the site will classify as S1 in terms of the NHBRC site class designation.

9. SITE DRAINAGE

To ensure satisfactory performance of the various buildings and structures proposed, it is of vital importance that effective surface drainage of the site is achieved. Allowance must therefore be made in the design to ensure the rapid removal of runoff from the site and to

prevent either the direct discharge or ponding of water in the immediate vicinity of the structures.

Sub-surface drainage may need to be installed locally along selected sections of the building areas for the collection and removal of groundwater seepages. The extent, location and depth of installation will be subject to on site assessment of subgrade conditions during construction of the building platforms.

Although the permeability of the site soils has not been verified by way of in-situ testing, it is suggested that for the design of subsurface drainage:

- the transported soils be considered marginal drainage material with a coefficient of permeability (k) of no better than 10^{-5}m/s,
- the more clayey residual material and soft rock phyllitic shales be considered practically impervious with a coefficient of permeability of 10^{-8} to 10^{-9}m/s.

It is suggested that the final drainage design be based on site specific permeability tests with the above values only used for preliminary design and costing purposes.

10. SPECIAL PRECAUTIONARY MEASURES

Given the low shear strength of the upper reworked soils as well as the fissured/shattered nature of the residual material, all excavations and trenches will have to be suitably battered/shored to ensure safe working conditions.

During periods of high rainfall, the upper site soils can become saturated and lead to difficult underfoot conditions. Having regard for the sloping nature of the site the potential for soil saturation and softening must be bourne in mind when selecting plant during construction.

11. CONCLUSIONS

- The site is underlain by shales of the Malmesbury Group which are mantled by residual and transported soils of variable thickness. The upper up to 1,55m of the soils profile has been extensively reworked (during past agricultural activities).

- Building foundation settlement of the order of 10 to 20mm is anticipated where founding conventionally. Founding improvements include soil densification followed by founding at depth and/or the use of stiffened concrete raft foundations.

- Base, subbase, selected subgrade and pipe bedding must all be imported.

- Groundwater levels are anticipated to deteriorate and rise to within 1,0m of ground level during the rainy season.

- Excavation conditions will classify as 'soft excavation' in terms of SANS 1200D for naturally transported and residual soils with some intermediate material occurring locally. Excavation in the more competent rock will classify as "hard excavation".

- The site development area will classify as 'S1' in terms of the NHBRC residential site class designation.

12. GENERAL

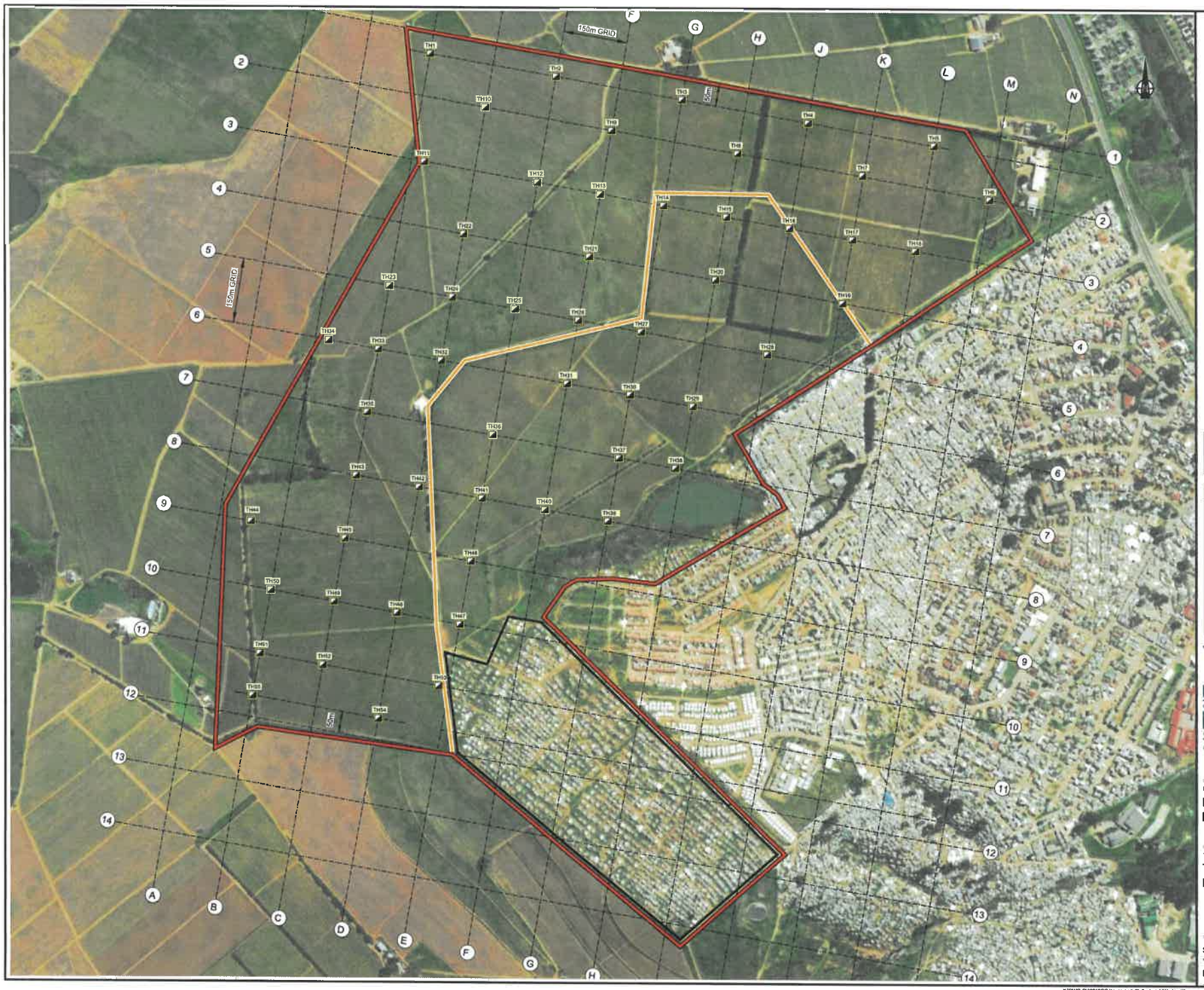
The recommendations and discussions presented in this report are based on the subsurface conditions encountered during the site work at the time of investigation and on the result of the limited field and laboratory testing on samples obtained from the trial holes. There may be, however, conditions pertaining to the site which have not been taken into account due to the frequency of the trial holes. The recommendations and discussions presented in this report should be considered preliminary and presented for guidance purposes only.

It is expected that once terracing of the site has commenced and the proposed buildings have been designed and set out, further inspections of foundation excavations etc. will be undertaken with the assistance of the geotechnical engineers and/or soils tests be carried out for approval of subgrade and founding conditions throughout.

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KAYAMANDI HOUSING FEASIBILITY
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SCALE : 1:4000
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ANNEXURE P

DESIGN REPORT FOR ELECTRICAL SERVICES



ELECTRICAL RETICULATION : STELLENBOSCH NORTHERN EXTENSION, KAYAMANDI

AUGUST 2023
REVISION 1

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DESIGN REPORT FOR THE ELECTRICAL & COMMUNICATION SERVICES
STELLENBOSCH NORTHERN EXTENSION
KAYAMANDI

1. DESIGN REPORT

This report must be read in conjunction with the inception report. The phasing of the development is yet to be finalised.

This report encompasses the scope of electrical services to be supplied to the development.

1.1 Purpose of this report

- consolidate the principles, concepts and specific requirements of the client
- provide the basic information parameters on which the design will be based
- confirm availability of services for the proposed development

1.2 Assumptions

The following assumptions have been made for the basis of this report :

- Preliminary load estimates were calculated by using the project inception report, and co-ordinating the load-allocations with the municipality.
- MV-ring networks will be installed.
- Municipal road networks will be installed throughout the development.
- Bulk infrastructure to be installed will cater for the complete development's power requirements.

2. SITE LOCATION

The proposed development is located north of Kayamandi, adjacent to Cloetesville and Welgevonden Estate, within the Stellenbosch Municipal area.

3. EXISTING INFRASTRUCTURE

The land for the planned development is un-serviced. Cables will be installed along the erf boundary to the south, which forms part of the planned bulk infrastructure upgrades by the municipality, which should be completed before the development is to start. The exact location / routing of these cables are to be finalised.

4. PROPOSED BULK ELECTRICITY

- The availability of the estimated 18.8MVA electrical supply to the development was discussed with the Stellenbosch Municipality. The municipality indicated that they are busy with infrastructure upgrades to the proposed development area, which will cater for the required load. The required capacity for the development will be made available as per the rolling out plan of the development.

- The primary 11kV feed will be from Cloetesville 66kV/11kV substation. The development will require two switching substations and the secondary 11kV network supplying the development will feed from these two switching substations. Two 14m x 20m sites are required to allow for the switching substations. The positions of the substation sites are to be finalised during the detailed design stage of the project.

.....2/

- A 3m wide servitude is to be registered along the southern boundary of the development, to allow for the future upgrades and cable routes.

5. LOW-VOLTAGE RETICULATION

- Each phase / area will be supplied with a low-voltage cable-network and kiosks, municipal metering and distributing consumer cables to each dwelling and building. All cabling will be done in accordance with Stellenbosch Municipal standards.

- All LV *infrastructure* will be installed in the municipal road reserve.

- The LV network will be supplied from minisubs connected to MV rings between the switching substations.

6. STREET LIGHTING

Municipal street lights will be installed along all municipal roads. Street-light cabling will be installed in the road reserve and in Public Open Spaces. The street lights will be according to municipal standards.

7. FIBRE/COMMUNICATIONS INFRASTRUCTURE

Manholes and sleeves will be installed along all roads, to cater for fibre / Telkom communication services to each stand.

The manholes and sleeves will be within the road reserve dedicated for services.

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ANNEXURE Q

ZUTARI
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Civil Services Report

Stellenbosch Northern Extension

Stellenbosch Municipality

Submission date: 2023/11/29

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Revision: 0

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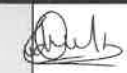
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1 Introduction

Stellenbosch has grown significantly as an educational, commercial and tourism node. This growth and influx of people resulted in the need for an integrated mixed-income human settlement. Stellenbosch Municipality identified the Northern Extension site as an ideal site for an integrated mixed-income human settlement development. Subsequently, Zutari was appointed to conduct a feasibility study to determine the suitability of the Northern Extension for such a mixed-income human settlement development.

1.1 Purpose of the project

The purpose of the project is to conduct various studies to determine if the Northern Extension site can accommodate an integrated mixed-income human settlement development. Through this project, Stellenbosch Municipality aims to facilitate the development of ± 4,000 residential opportunities including the required social and public facilities within the Site. The project will guide the development framework for the Northern Extension site through a Broad Conceptual Urban Design Framework and also obtain planning and development rights in terms of the applicable legislative policies and by-laws of the Stellenbosch Municipality.

This report addresses the water and sewer demand capacities and connection requirement for the proposed development and summarises the proposed road access and stormwater principles to be adopted. The infrastructure design of the development is based on the technical requirements and guidelines as stated by the Stellenbosch Municipal Design Guidelines and Minimum Standards for Civil Engineering Services of June 2015 (Municipality, 2015). Additionally, the design consideration is also based on Guidelines for Human Settlements Planning and Design (CSIR, 2019) and the Drainage Manual 6th Edition (SANRAL, 2013).

The civil services report has been compiled based on the following available information:

- Northern Extension Subdivisional Layout Plan;
- Current Urban Design Framework;
- Capacity Analysis of the Bulk Water and Sewer services compiled by GLS Consulting (Pty) Ltd;
- Design report for electrical services complied by De Villiers & Moore Consulting Engineers;
- Traffic Impact Assessment;

1.2 Project Location

The site is located on the R301 the main arterial road in the Northern direction out of Stellenbosch. Situated directly north of Kayamandi, adjacent to Cloetesville and within the Stellenbosch Municipal area. The coordinates of the proposed development is 33°54'59.43" (latitudinal) and 18°50'3.03" (longitudinal). Figure 1 below indicates the locality position of the proposed development.

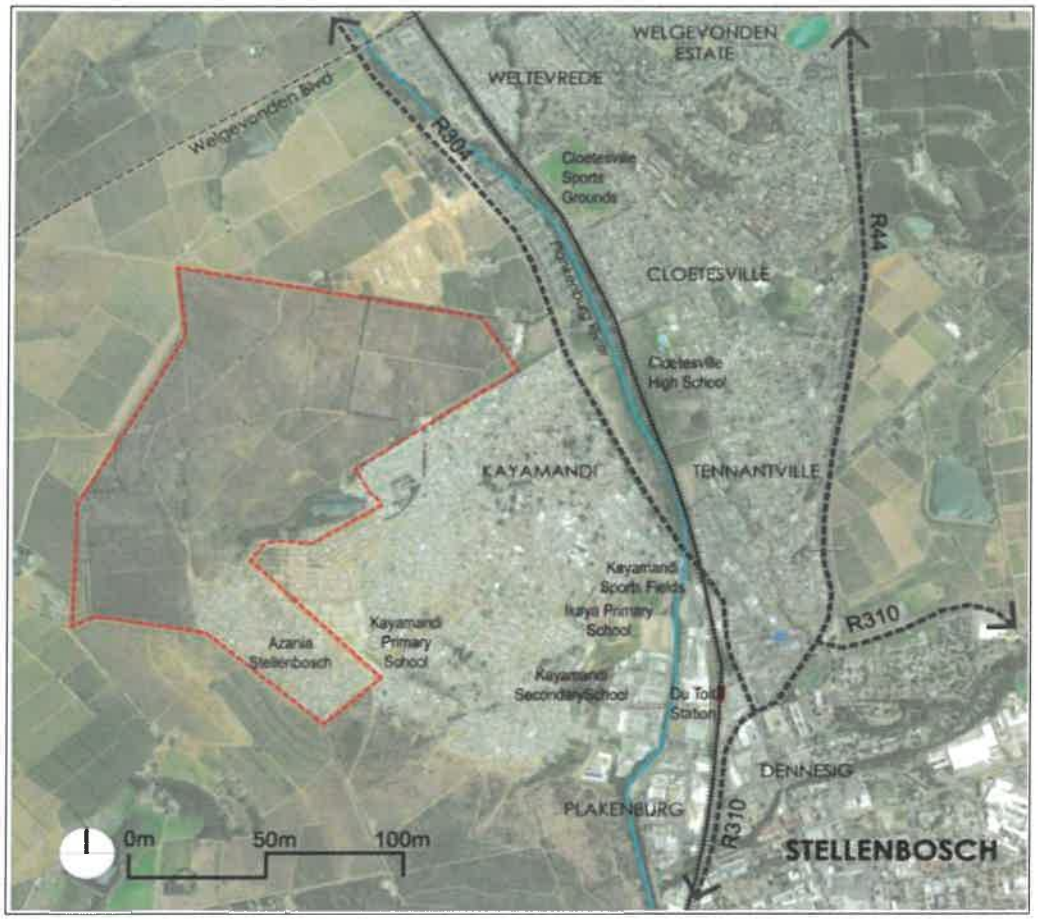


Figure 1: Locality Plan - Northern Extension

1.3 Current land usage

The proposed development comprises seven different properties, which will be subdivide as per the current Northern Extension Subdivisional Layout Plan. The current seven properties are zoned as indicated in Table 1.

Table 1: Property Description and Zoning

Property description		Extent	Current Zoning
1	Portion 23 of Farm 183	20.4239 ha	Industrial Zone
2	Portion 36 of Farm 183	2.8272 ha	Industrial Zone
3	Remainder of Farm 182	7.2986 ha	Agriculture and Rural Zone
4	Remainder of Farm 183	267.6298 ha	Agriculture and Rural Zone
5	Remainder of Portion 1 of Farm 182	1.4175 ha	Agriculture and Rural Zone
6	Remainder of Portion 1 of Farm 183	1.3673 ha	Agriculture and Rural Zone
7	Remainder of Portion 5 of Farm 183	50.8432 ha	Agriculture and Rural Zone

The total site area is therefore 351.8075 hectare.

2 Technical Investigation

The following sections provide an overview of the technical investigations done for the proposed development which have an impact on the civil infrastructure design.

2.1 Land Survey

A topographical survey of the proposed site was conducted by Joubert & Brink Surveyors. Figure 2 below illustrates the topographical map of the area with 2m contour intervals. The development area includes a substantial hill at the centre of the site with foot slopes fanning out towards the erf boundaries. A small wetland exists in the north-eastern part of the site. Two earth dams are situated along the eastern side of the site separating the proposed development and the existing Kayamandi residential area.

The steep terrain will limit the street networks, building typologies and stormwater systems. Area's steeper than 25% will be utilised as green / open spaces and will not be developed. Refer to Figure 3 illustrating how the proposed development will be developed within the steep terrain.

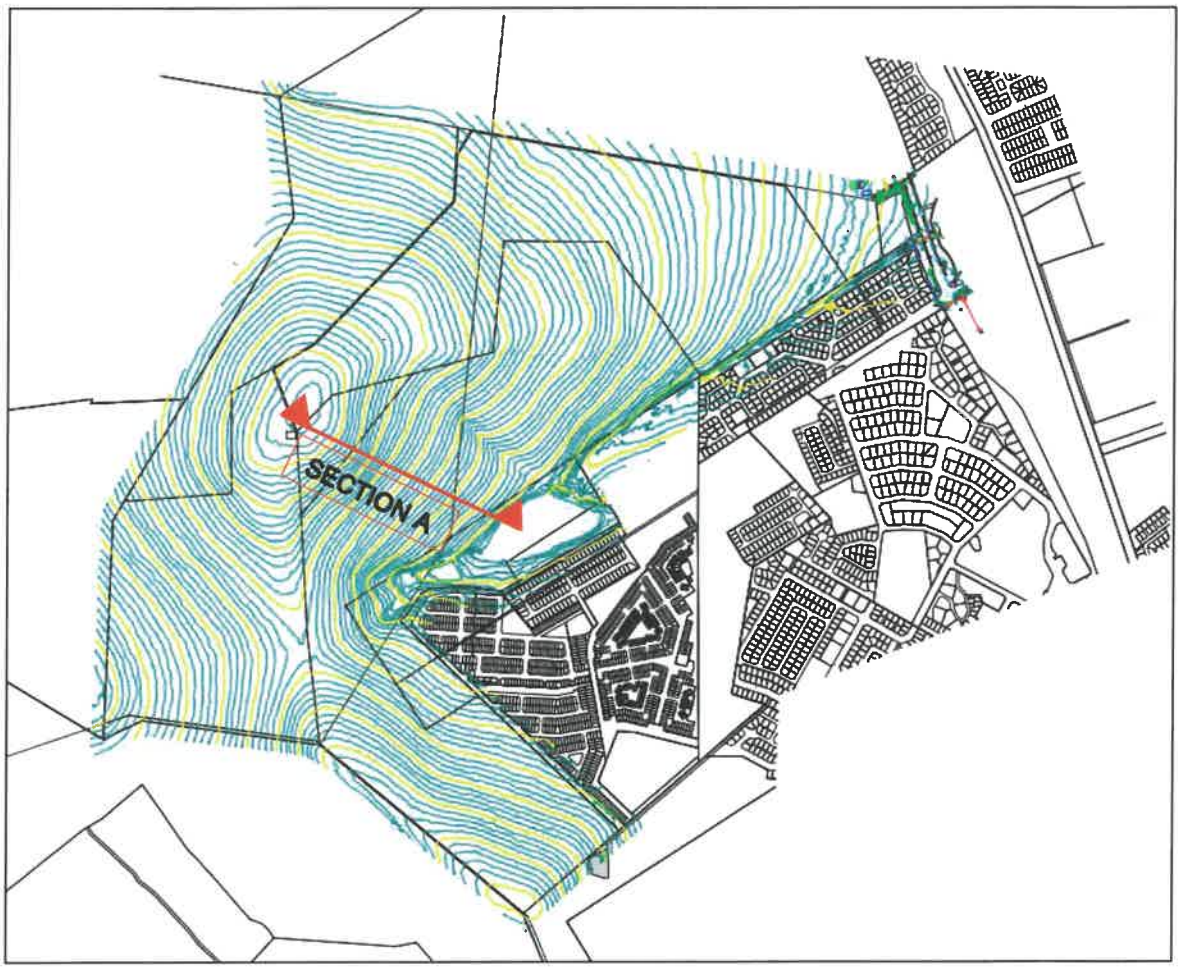


Figure 2: Topographic survey map with 2m contour lines

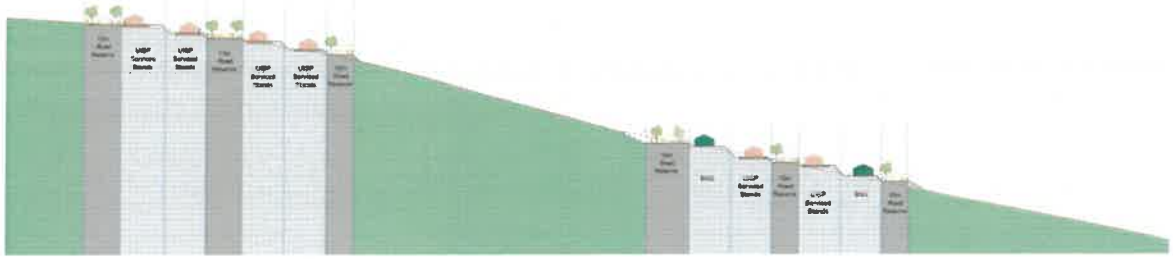


Figure 3: Section A

2.2 Geotechnical Investigation

A Geotechnical investigation was conducted by Kantey & Templer Consulting Engineers. The field investigation included the excavation of fifty-five (55) machine dug trial holes to depths of approximately 3.0m below the existing ground level at pre-selected readily accessible locations across the site. The trial hole positions are shown in Figure 4 below.

Subsoil conditions were assessed by detailed examination of the in-situ materials exposed in the trial holes using standard visual and tactile procedures. Disturbed soil samples were extracted from selected soil horizons in the trial holes, the samples were submitted to Messrs Steyn Wilson Laboratories for testing to determine the engineering properties of the in-situ soils.

In addition, Dynamic Cone Penetrometer (DCP aka DPL) tests were carried out next to the trial holes. The tests were all carried out from ground level to depth of 2m. Results of all testing are included in Kantey & Templer's Geotechnical Report in Appendix A.

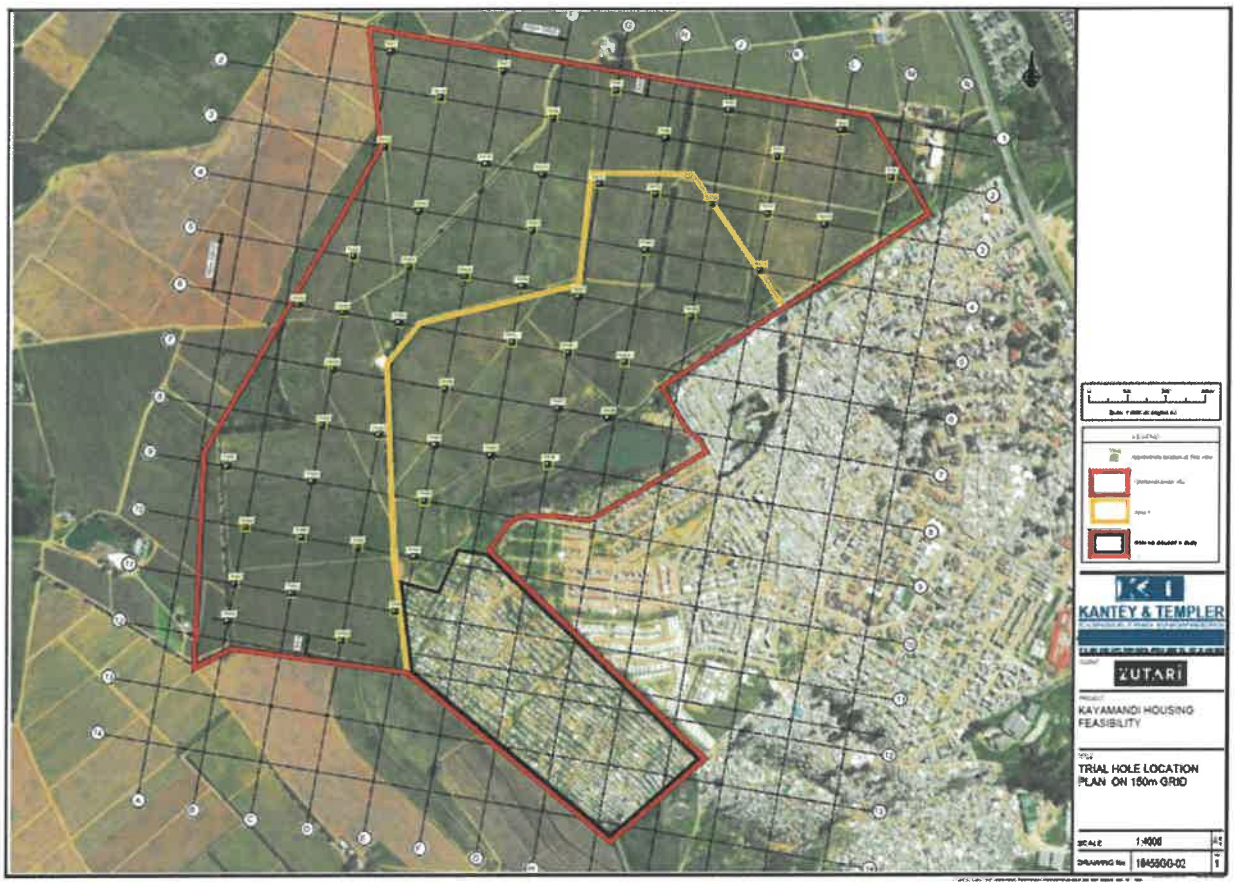


Figure 4: Geotechnical trial hole location plan

The test results indicated that the site is underlain by shales of the Malmesbury Group, which are mantled by residual and transported soils of variable thickness. The upper 1,55m of the soils profile has been extensively reworked during past agricultural activities.

Building foundation settlement of the order of 10 to 20mm is anticipated where conventional foundation is used. Founding improvements include soil densification followed by founding at depth and/or the use of stiffened concrete raft foundations.

Base, subbase, selected subgrade, and pipe bedding must all be imported.

Groundwater levels are anticipated to deteriorate and rise to within 1,0m of ground level during the rainy season.

Excavation conditions will classify as 'soft excavation' in terms of South African National Standards (SANS) 1200D for naturally transported and residual soils with some intermediate material occurring locally. Excavation in the more competent rock will classify as "hard excavation".

The site development area will classify as 'S1' in terms of the National Home Builders Regional Council (NHBRC) residential site class designation.

Please refer to the detailed Kantey & Templer Geotechnical Report in Appendix A for further information.

2.3 Floodline determination

Graeme McGill Consulting was appointed to determine the 1:50 and 1:100 floodlines for the proposed Northern Extension development.

The study undertaken comprises the following:

2.3.1 River hydraulics

HECRAS profile software package was used to model the central watercourse on the south-eastern boundary of the site. To determine the flow in the watercourse, various data and field observations such as survey data, flow constraints and peak flows were used for floods of various return intervals. Water surface profiles and flow velocities for a range of flows in the river were determined.

2.3.2 Flood hydrology

Determination of flow peaks for return periods of 1:50 year and 1:100 year, calculated using several different standard hydrological methods namely, Rational Method, Standard Design Flood Method, and HEC-HMS using the SCS Runoff Method.

The catchments which drain to the site are shown in Figure 5. The overall catchment has been sub-divided in order to determine flood peaks at 3 locations:

- Start point upstream of the dam (SC1)
- The upper and lower catchments upstream of R304 (SC1 + SC2)
- The total catchment, upstream of R304 (SC1 + SC2 + SC3)

The parameters for these three sub-catchments are listed in Table 2.

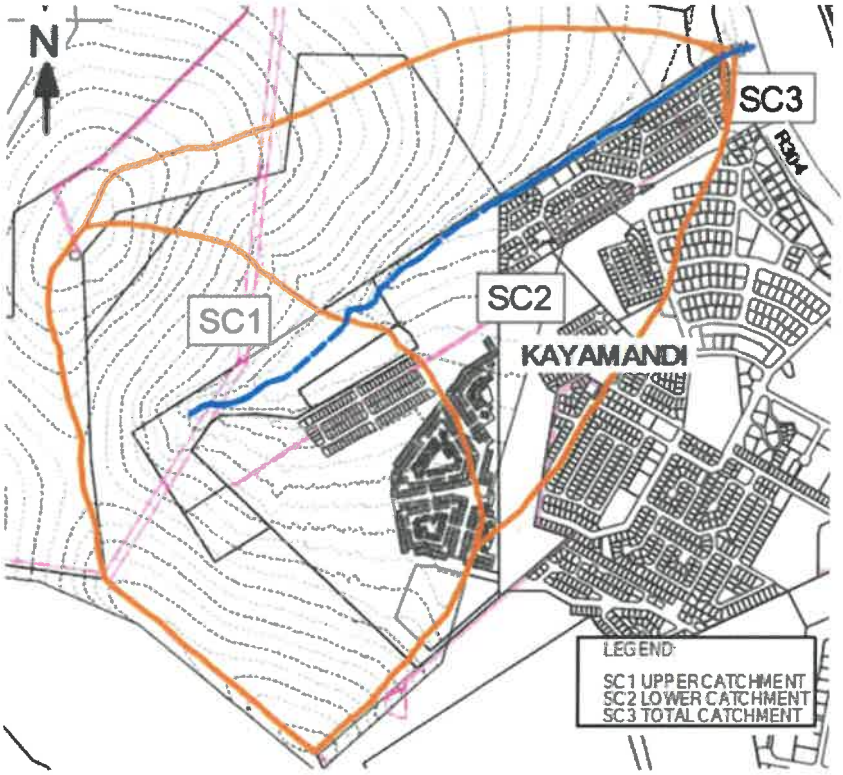


Figure 5: Sub-catchment boundaries

Table 2: Catchment parameters

PARAMETER	SC1	SC1+SC2	SC1+SC2+SC3
AREA (km²)	0.641	1.309	1.311
Average slope	11.85%	9.40%	9.34%
Length of longest collector (km)	0.95	1.92	1.94
Time of concentration (min)	5.9	13.2	13.4
Basin lag (min)	3.5	7.9	8.0
Runoff factor CN (SCS method)	77	77	77
NOTE: Sub-catchments at the dam, upstream & downstream boundary of Stellenbosch Northern Extension: SC1, SC2, SC3			

2.3.3 Storm data

The City of Cape Town commissioned the University of Kwazulu Natal to investigate the likely effect of climate change on storm intensities in the Western Cape. The recommendation from this investigation was that an increase of 15% over the existing IDF curves be allowed for. This was accepted by the City and a set of point storm rainfall depths has been prepared for a one minute by one minute grid covering the Western Cape.

Two rainfall grid points (33°55'S, 18°50'E and 33°55'S, 18°51'E) were used. Figure 11 shows the positions and coordinates of the point in relation to the catchment areas.

The average rainfall from the two grid point locations have been selected for the peak flow analysis and the final weighted point rainfall figures are set out in Table 3.



Figure 6: Rainfall grid point location

Table 3: Weighted point storm rainfall depths extracted from City of Cape Town design grid

RETURN PERIOD (YR)	EVENT DURATION (min)/RAINFALL (mm) (INC CC FACTOR)							
	10	30	60	120	240	360	720	1440
0.5	3.5	5.9	8.1	11.0	14.0	16.1	20.3	25.7
1	5.6	9.4	12.9	17.5	22.1	25.4	32.1	40.7
2	7.8	13.1	17.9	24.3	30.8	35.3	44.7	56.5
5	10.5	17.6	24.0	32.6	41.3	47.4	59.9	75.8
10	12.4	20.9	28.4	38.7	48.9	56.2	71.0	89.9
20	14.4	24.3	33.0	45.0	56.9	65.3	82.6	104.5
50	17.3	29.1	39.6	53.8	68.1	78.1	98.8	125.1
100	19.6	32.9	44.9	61.1	77.2	88.6	112.1	141.8

NOTES:
These data are for storm depths from points 33°55' S 18°50' E
33°55' S 18°51' E

2.3.4 Floodlines

The software package HEC-RAS (Ver 5.0.7) was used to compute the water surface profiles for the 1:50 and 1:100 year recurrence intervals as follows, using cross-sections from the two surveys and the flood peak flows. The upstream boundary condition was deemed to be the normal depth as defined by the river grade and the R304 with its culvert was the downstream control. The estimated Manning n roughness coefficients, based on field inspections, for the river are given in Tables A1, Annexure A of the Floodline Report.

The results of the water surface profile analysis were contained in Tables B1 and B2. From these results the floodline energy levels have been plotted on the accompanying drawing MC356-C400 of the Floodline Report in Appendix B.

3 Potable water supply

3.1 Impact on bulk water capacity

3.1.1 Bulk reticulation network

The general area of Kayamandi is currently supplied with water from the Kayamandi Reservoir through a rising main from the Kayamandi pump station and sump. Water can also be pumped from the Klienvlei reservoir to the existing Kayamandi reservoir. The existing system does not have sufficient capacity for the proposed development to proceed. According to the capacity analysis report by GLS Consulting, it is proposed that the Northern Extension development area is supplied with water from a new 10 ML higher lying reservoir (the so called Kayamandi Northern reservoir). New supply pipelines from the proposed Kayamandi Northern reservoir will be required to services the proposed development.

The following new 13eservoirr, main supply pipelines, pressure reducing valves and booster pump stations will be required in future to service the Kayamandi Northern Extension:

- New 10.0 ML reservoir at 245m top water level (SSW.B31);
- 215 m x 400 mm Ø Pipe to be installed (SSW18.1);
- 160 m x 400 mm Ø Pipe to be installed (SSW18.2);
- 850 m x 200 mm Ø Pipe to be installed (SSW18.3);
- 115 m x 355 mm Ø Pipe to be installed (SSW18.4);
- 825 m x 250 mm Ø Pipe to be installed (SSW18.5);
- 985 m x 200 mm Ø Pipe to be installed (SSW18.6);
- 190 m x 160 mm Ø Pipe to be installed (SSW18.7);
- New 150 mm Ø PRV to be installed (SSW19.1a);
- New 200 mm Ø PRV to be installed (SSW19.1b);
- 445 m x 250 mm Ø Pipe to be installed (SSW19.2);
- New 150 mm Ø PRV to be installed (SSW19.3);
- 240 m x 250 mm Ø Pipe to be installed (SSW19.4);
- 70 m x 160 mm Ø Pipe to be installed (SSW20.1);
- 6.5 L/s @ 30 m new booster pump station (SSW20.2);
- 6.5 L/s @ 30 m new booster pump station (SSW21.1);

Figure 7**Error! Reference source not found.** below indicated the proposed developed area as well as bulk water infrastructure items listed above.

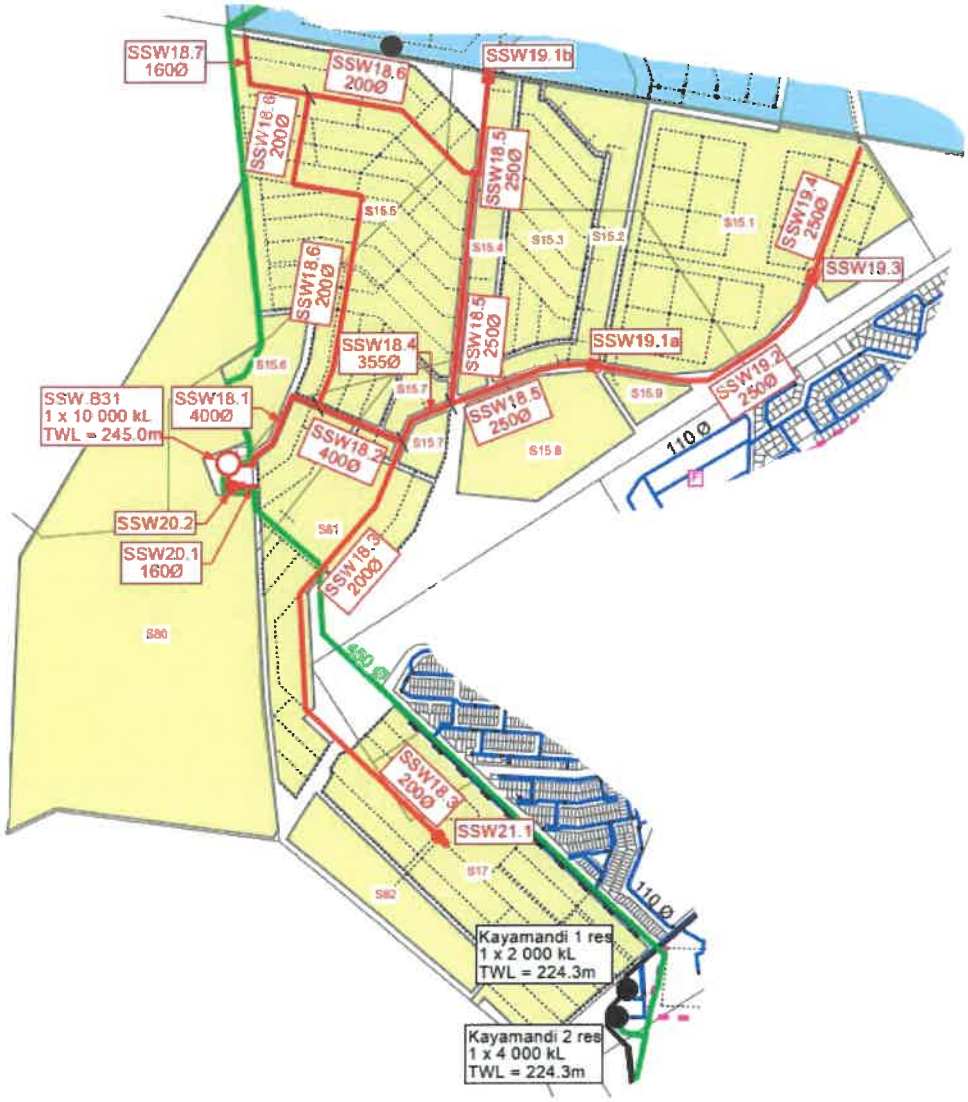


Figure 7: Bulk Water Upgrades (GLS Master Plan 2023)

3.1.2 Bulk water supply

New bulk supply infrastructure should be constructed from the existing Papegaaiberg reservoir site to the Kayamandi Northern reservoir to supply the development area with bulk water and Helshoogte system phase 1, which includes a pipeline from the Idas Valley no.2 reservoir to the Papegaaiberg reservoir. The following bulk water augmentation project is proposed in the water master plan in order to supply bulk water for the proposed Kayamandi Northern reservoir:

- 150 L/s @ 135 m pump station to be constructed at Papegaaiberg reservoir (SSW.B23);
- 3,145 m x 450 mm Ø Pipe to be installed from Papegaaiberg reservoir to the new Kayamandi Northern reservoir (SSW.B30);
- 245 m x 550 mm Ø Pipe to installed from Idas Valley no.2 reservoir to the Papegaaiberg reservoir (SSW6.8a);
- 4,560 m x 450 mm Ø Pipe to installed from Idas Valley no.2 reservoir to the Papegaaiberg reservoir (SSW.B20a).

As alternative to the bulk supply augmentation project from the Idas Valley WTP to the Papegaaiberg reservoir (Helshoogte project, Phase 1), the bulk pipeline from the Skilpadsvlei reservoir to Papegaaiberg can be implemented. Increase of the storage capacity at the Papegaaiberg reservoir site is not seen as a

minimum requirement to accommodate the proposed development in the existing system, but it is recommended that additional storage capacity is provided in the near future at the Papegaaiberg reservoir site.

3.2 Water demand calculation

The potable water demand for the proposed development was calculated based on the Guidelines for Human Settlement Planning and Design (CSIR, 2019), also known as "The Redbook". Using Table J.4 the Annual Average Daily Demand (AADD) for each land use type. The potable water calculations are shown in According to Table J.2 the recommended water demand for an educational facility is 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);

1. Agricultural Facility: The proposed training facility is assumed to be a government institution and the recommended water demand for such a facility is 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);
2. Community Zone: The proposed community zone is considered to include public libraries, community facilities and churches. Due to the variety of facilities in this zone we have used a water demand of 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);

Table 4 below.

Individual water demand rate per day for each proposed land use is calculated as follows:

3. Freestanding – GAP / FLISP / Subsidized housing: The proposed freestanding erven sizes vary from 120m^2 to 225m^2. According to Table J2. The recommended water demand upper limit for group / cluster housing (stand size 130 to 200m^2) is 0.45 kL/unit/day.
4. UISP – Serviced Sites: The proposed services sites sizes vary from 90m^2 to 105m^2. As each site will receive a house connection (assuming the house connection serves a standpipe and 1 prefabricated toilet) the recommended water demand for low-income households is calculated per person. We assume 5 people per stand and a typical water demand of 90 L/person/day;
5. Apartments: According to Table J.2 the recommended water demand for very high-density flats (unit size 100-80m^2) is 0.3 kL/unit/day;
6. Transport facility: The proposed transport facilities include taxi ranks and bus stops, with ablution facilities. According to Table J.4 the recommended water demand for a taxi rank is 0.3 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);
7. Mixed use: The proposed mixed-use sites will include commercial, retail and residential units. 15% of the site is given to internal reticulation and 70% to coverage, were that efficiency factor to calculate the GLA is 75%. The residential density per hectare is 100 units/ha. According to Table J.2 the recommended water demand for a business / commercial area is 0.4 kL/100m^2 GLA and for very high-density flats (unit size 100-80m^2) is 0.3 kL/unit/day;
8. School (buildings): According to Table J.2 the recommended water demand for an educational facility is 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);
9. Agricultural Facility: The proposed training facility is assumed to be a government institution and the recommended water demand for such a facility is 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);
10. Community Zone: The proposed community zone is considered to include public libraries, community facilities and churches. Due to the variety of facilities in this zone we have used a water demand of 0.4 kL/100m^2 GLA and we assume the site will have a 0.4 FAR (floor ratio area);

Table 4: Potable Water Demand Calculation

POTABLE WATER DEMAND CALCULATIONS				PROJECT:	Northern Extension Stellenbosch		
ZUTARI IMPACT. ENGINEERED.				Project no:	1001438		
				Calculated by:	E Jordaan	Rev:	2
				Checked by:	C van der Walt	Date:	29-Nov-23
ANNUAL AVERAGE DAILY WATER DEMAND SCHEDULE							
Item no	Land use description	Amount of Units		Unit	Water demand rate per day		TOTAL DEMAND AADD (kl/d)
					Rate per unit:	*Rate by Area:*	
		Qty	Unit-type		kl per ha	kl per 100 sqm.	
1	Freestanding - GAP/FLISP/Subsidised	1338	Erf	120-225	0.45		602.10
2	UISP - Serviced sites	1354	Capita	5	0.09		609.30
3	Apartments (Subsidised, priv rental, social housing)	739	Unit	100	0.30		221.70
4	Transport Facility Zone		ha	1.1		0.30	13.20
5	Mixed Use (Commerical, Retail, Residential)		ha	10.12			-
5.1	- Commercial (GLA)		m²	51072.1		0.40	204.29
5.2	- Residential	1032	Unit	100	0.30		309.60
6	School (Buildings Only)		ha	2.712		0.40	43.39
7	Agriculture Facility (training facility)		ha	1.98		0.40	31.68
8	Community Zone		ha	5.86		0.40	93.76
						Subtotal 1	**2,129**
						Plus 15% losses	319
						Subtotal 2	**2,448**

GENERAL NOTES:	WATER UTILIZATION SUMMARY	
	TOTAL ANNUAL AVERAGE DAILY WATER DEMAND (l/d)	2,448,373
	PEAK FLOW CONDITIONS:	
	Instantaneous Peak Factor:	3.3
	Instantaneous Peak Flow (l/s):	93.51

From Table 4 it can be concluded that the potable water Annual Average Daily Demand (AADD) for the proposed development is 2,448 kL/day and the instantaneous peak flow is 93.51 l/s.

3.3 Internal Reticulation

All internal network pipes will consist of HDPE PN 12.5 PE 100 pipes of various diameters which is the minimum requirement (Municipality, 2015). Considering the bulk infrastructure and Water Master Plan, the proposed developments water network will be subdivided into four different zones explained in detail in the following sections.

3.3.1 Zone 1: Kayamandi Northern booster zone

This zone will receive water from the new Kayamandi Northern Reservoir via a new 6.5l/s pumpstation (SSW20.2). Residential erven and the agricultural facility above 220m EGL will be included in zone 1 as shown in Figure 8 below.

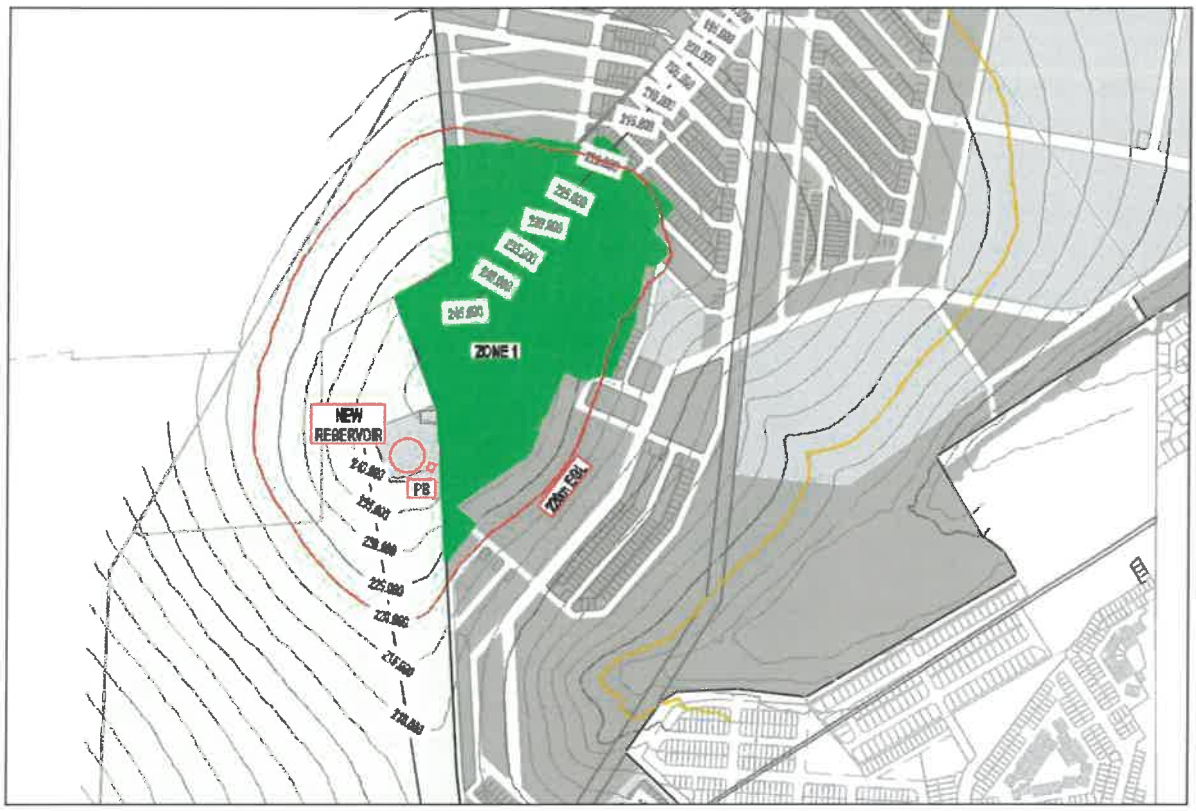


Figure 8: Water distribution Zone 1

3.3.2 Zone 2: Kayamandi Northern reservoir upper zone

This zone will receive water directly from the new Kayamandi Northern reservoir via a new 400mmØ HDPE supply pipeline which will branch off into 350mmØ and 250mmØ HDPE bulk supply pipelines, as well as a 200mmØ HDPE bulk supply pipeline supplying the southern part of the development. All residential, industrial, commercial and educational facilities below the 220m EGL and above the 170m EGL will form part of zone 2, as shown in Figure 9 below.

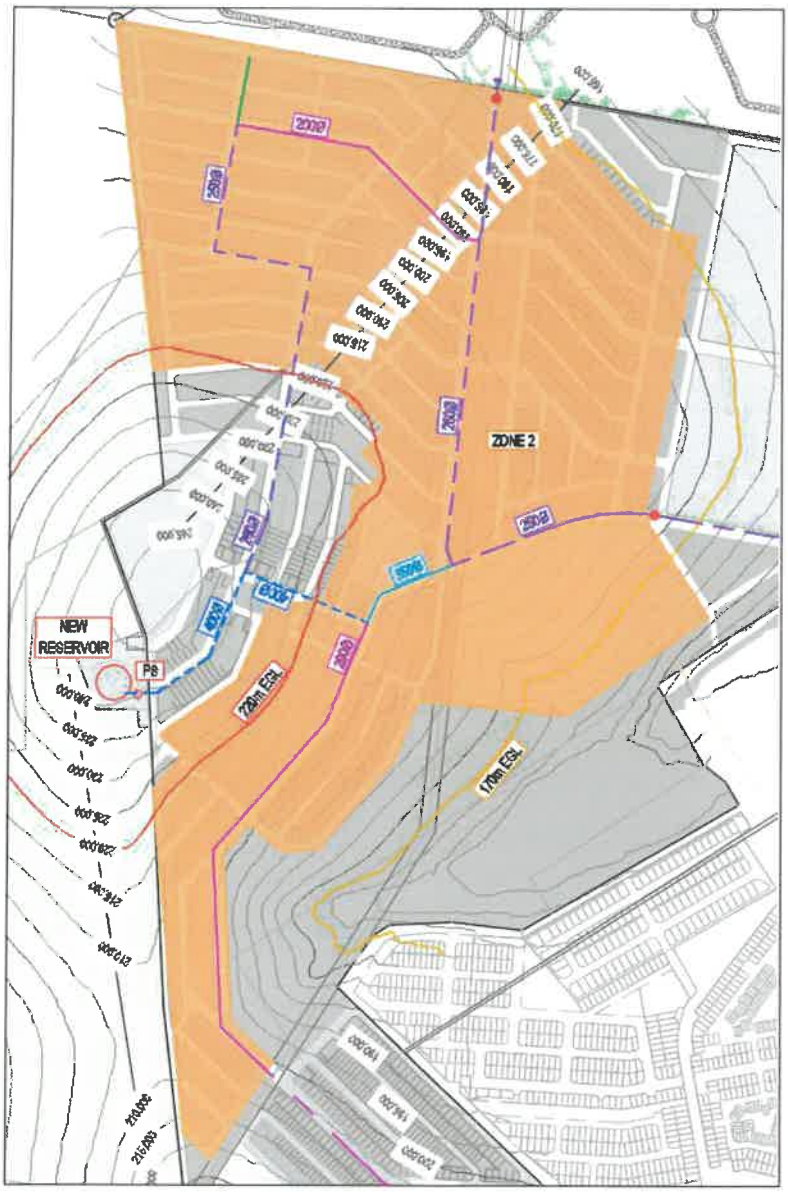


Figure 9: Water distribution Zone 2

3.3.3 Zone 3: Kayamandi Northern reservoir lower zone

This zone is located below the 170m EGL line which will also receive water from the new Kayamandi Northern reservoir via a new PRV on the 250mmØ HDPE supply pipeline branching off the 400mmØ bulk supply pipeline (Refer to Figure 10 below). Zone 3 will include residential and commercial erven in the northern lower region of the development between the 170m EGL and the 125m EGL.

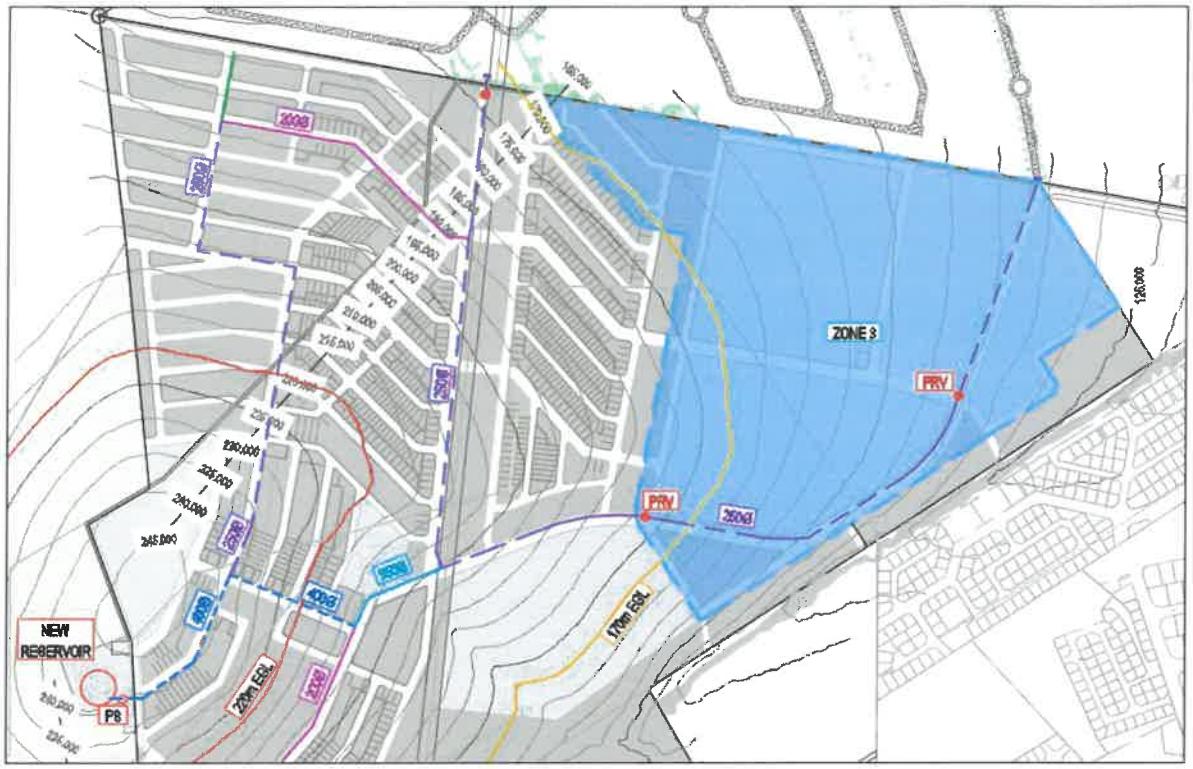


Figure 10: Water distribution Zone 3

3.3.4 Zone 4: Kayamandi Southern booster zone

This zone will receive water from the new Kayamandi Northern reservoir via a new 6.5l/s pumpstation (SSW 21.1) at 30m from the 200mmØ supply pipeline, as shown in Figure 11 below.



Figure 11: Water distribution Zone 4

3.4 Firefighting requirements

According to The Redbook (Department of Human Settlements , 2019), fire flow for categories high risk, moderate risk 1 and moderate risk 2 should be supplied at 25 l/s and 1.5 bar pressure at the connection and must be available during peak instantaneous flow. This will be the minimum requirement for all developed areas. Hydrants in the network will be spaced at a maximum distance of 120m for high risk category (high risk industrial area), 180m for moderate categories (industrial, commercial, high rise flats, residential zone II and III) and 240m for all other low risk categories (residential zone I) as per local authority standards (Municipality, 2015).

4 Sanitation

4.1 Impact on bulk sewage

4.1.1 Bulk distribution system

The Kayamandi Northern Extension development area falls within the existing Adam Tas drainage system area, which gravitates directly towards the Stellenbosch Wate Water Treatment Plant (WWTP). The development area is situated within the sewer priority area.

New collector sewers will be required to service the northern areas (areas S15.1 to S15.9 & S81). It is proposed that these areas connect to the existing 450 mm diameter bulk sewer adjacent to the R304 Main Road (Koelenhof Road). The southern areas of the site (S82 and S17) will be connected to the existing sewer system of Kayamandi. Figure 12 indicates the distribution upgrades required for the proposed development.

Sewer distribution system upgrades required for the proposed development are as follows:

- 310 m x 160 mm Ø New Gravity pipeline (SSS27.2)
- 200 m x 400 mm Ø New Gravity pipeline (SSS27.3)
- 205 m x 250 mm Ø New Gravity pipeline (SSS27.5)
- 960 m x 200 mm Ø New Gravity pipeline (SSS27.6)
- 425 m x 200 mm Ø New Gravity pipeline (SSS27.8)
- 460 m x 160 mm Ø New Gravity pipeline (SSS27.10)
- 710 m x 160 mm Ø New Gravity pipeline (SSS27.11)
- 330 m x 160 mm Ø New Gravity pipeline (SSS27.13)



Figure 12: Bulk sewer distribution upgrades (Municipal Master Plan 2023)

4.1.2 Bulk outfall sewers

The bulk sewer system downstream of Kayamandi has sufficient spare capacity to accommodate more than 50% of the total development area. Upgrading of the bulk system will however be required to accommodate the full development area. Figure 13 indicates the bulk infrastructure upgrades required for the proposed development.

The following upgrades to the bulk sewer system downstream of Kayamandi is proposed in the sewer master plan to accommodate the full development area:

- 760 m x 600 mm Ø upgrade existing gravity (SSS1.2)
- Upgrade existing flow diversion (SSS1.4)
- 185 m x 600 mm Ø upgrade existing gravity (SSS1.5)
- Upgrade existing flow diversion (SSS1.6)
- 450 m x 600 mm Ø upgrade existing gravity (SSS1.7)

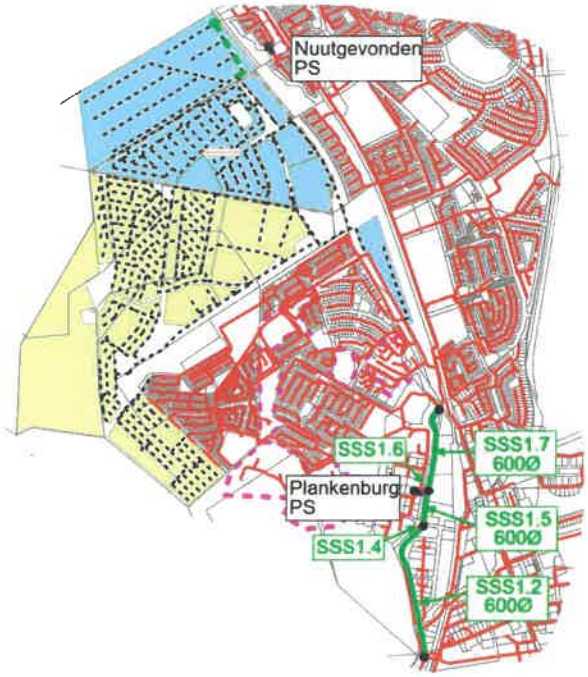


Figure 13: Bulk sewer outfall upgrades (Municipal Masterplan 2023)

4.2 Sewage Yield Calculation

The majority of the developed area will be used to develop freestanding residential erven (GAP / FLIPS / Subsidised), UISP services sites and apartments which all have relatively low irrigation demand. Therefore, we have estimated a sewage yield for the residential unit at 80% of the potable water demand. Furthermore, allowance was also made for 80% sewer yield models for transport facilities, mixed-use commercial, industrial, community zoned and educational facilities as indicated in Table K.4 (CSIR, 2019). The calculation for the daily sewage yield is shown in Table 5.

Table 5: Sewage yield calculation for the development

SEWAGE DEMAND CALCULATIONS				PROJECT:	Northern Extension Stellenbosch		
ZUTARI IMPACT. ENGINEERED.				Project no:	1001438		
				Calculated by:	E Jordaan	Rev:	2
				Checked by:	C van der Walt	Date:	29-Nov-23
ANNUAL AVERAGE DAILY SEWAGE YIELD SCHEDULE							
Item no	Land use description	Amount of Units		Unit area (ha)	Sewage yield rate per day		TOTAL YIELD (kl/d)
					Water demand	*Sewer Flow*	
		Qty	type		(excl. infiltration)	% AADD	
1	Freestanding - GAP/FLISP/Subsidised	1338	Erf	120-225	602.10	80.00%	481.68
2	UISP - Serviced sites	1354	Capita	5	609.30	80.00%	487.44
3	Apartments (Subsidised, priv rental, social housing)	739	Unit	100	221.70	80.00%	177.36
4	Transport Facility Zone		ha	1.1	13.20	80.00%	10.56
5	Mixed Use (Commerical, Retail, Residential)		ha	10.12	-		-
5.1	- Commercial (GLA)		m²	51072.1	204.29	80.00%	163.43
5.2	- Residential		Unit	100	309.60	80.00%	247.68
6	School (Buildings Only)		ha	2.712	43.39	80.00%	34.71
7	Agriculture Facility (training facility)		ha	1.98	31.68	80.00%	25.34
8	Community Zone		ha	5.86	93.76	80.00%	75.01

GENERAL NOTES:	SEWAGE YIELD SUMMARY	
	DAILY SEWAGE YIELD VOLUMES	
	Annual Average Daily Dry Weather Flow (kl/d)	1,703
	Infiltration factor (%)	15.0%
	TOTAL ANNUAL AVERAGE DAILY WET WEATHER FLOW (kl/d)	1,959
	PEAK FLOW CONDITIONS:	
	Instantaneaous Peak Factor:	2.46
	Instantaneaous Peak Dry Weather Flow (l/s):	48.5
	Instantaneaous Peak Wet Weather Flow (l/s):	55.77

From Table 5 it can be concluded that the total annual average wet weather sewage flow yielded by the proposed development is approximately 1,959 kl/d. The instantaneous sewage peak flow was calculated as 55.77 l/s.

4.3 Sewerage reticulation

The internal sewer system of the proposed development will consist exclusively of a gravity network. Considering the sites natural slope and watershed, the proposed developments sewer network will be subdivided into three drainage areas. The site's sewage will gravitate to a low point on the north-eastern corner of the development where it will connect to the municipal bulk network within the R301. The three different drainage areas are explained in detail in the following sections.

4.4 Drainage Area 1: Northern Extension North

Drainage area 1 will drain towards the Northern boundary of the development via new bulk sewer pipeline, which includes 560m 160mmØ uPVC class34, 278m 200mmØ uPVC class34, 185m 250mmØ uPVC class34 and 190m 400mmØ uPVC class34. The new bulk pipelines will tie-in to the existing municipal sewer system within the R301 road as shown in Figure 14.

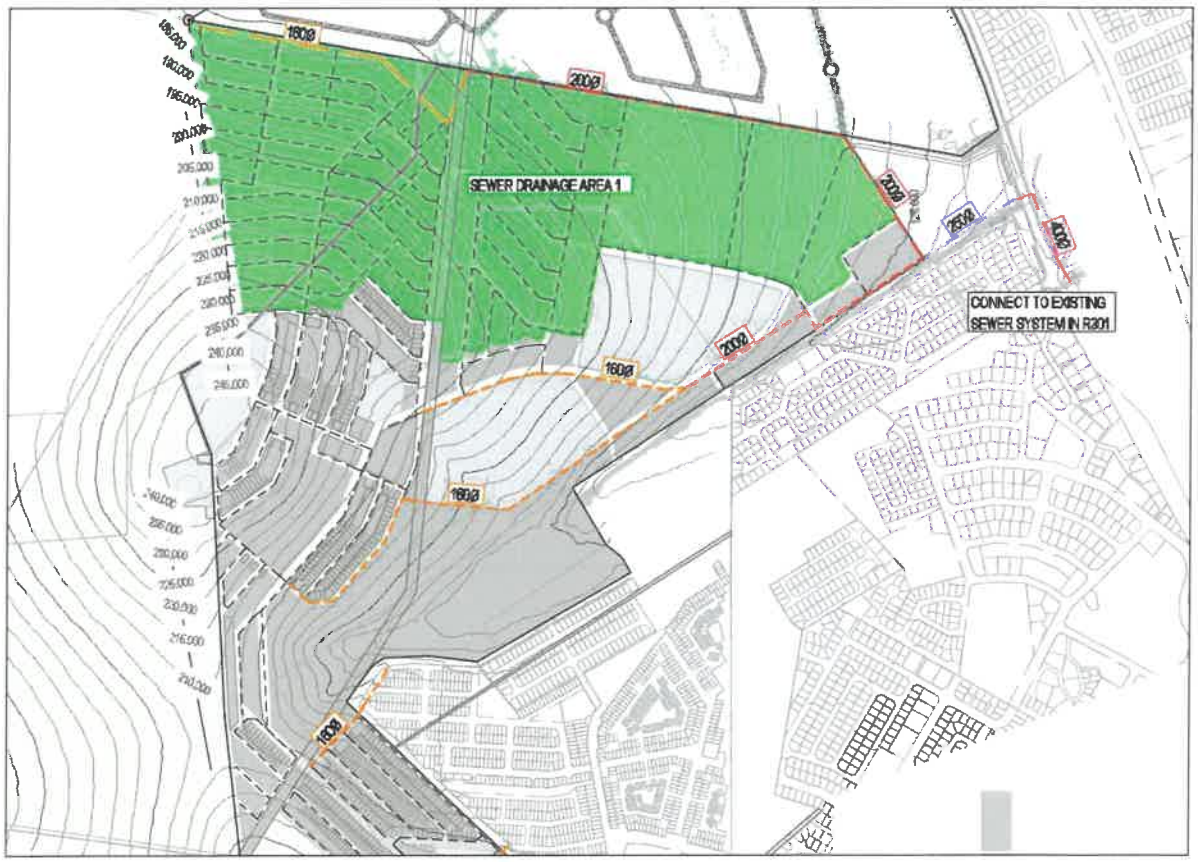


Figure 14: Sewage drainage area 1

4.5 Drainage Area 2: Northern Extension Central

Drainage area 2 will drain to the south eastern boundary of the development via new bulk sewer pipeline, which includes 1,280m 160mmØ uPVC class34 and 180m 200mmØ uPVC class34 that will tie-in to the new 250mmØ bulk pipeline directed to the R301 as shown in Figure 15.

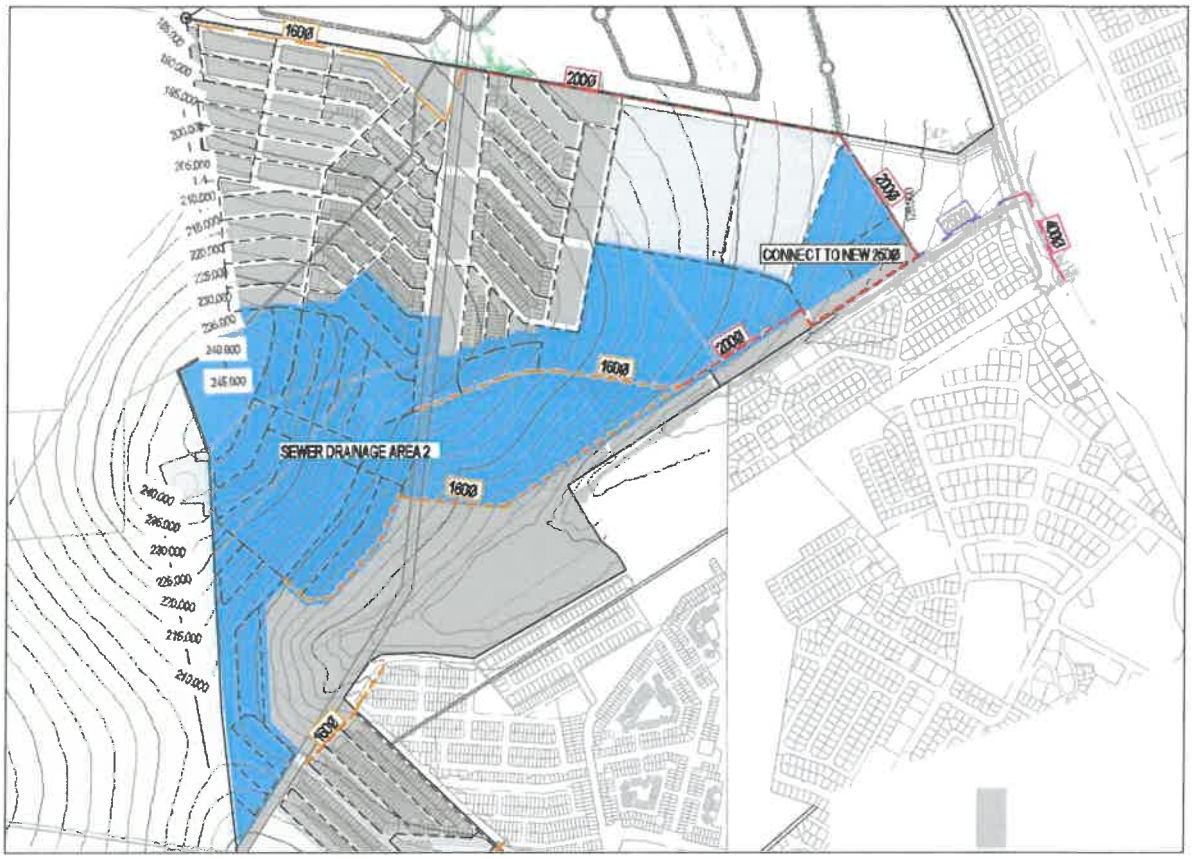


Figure 15: Sewage drainage area 2

4.6 Drainage Area 3: Northern Extension South

Drainage area 3 (S17 and S82) will drain to the Eastern boundary and connect to the existing Kayamandi sewer system as shown in Figure 16.

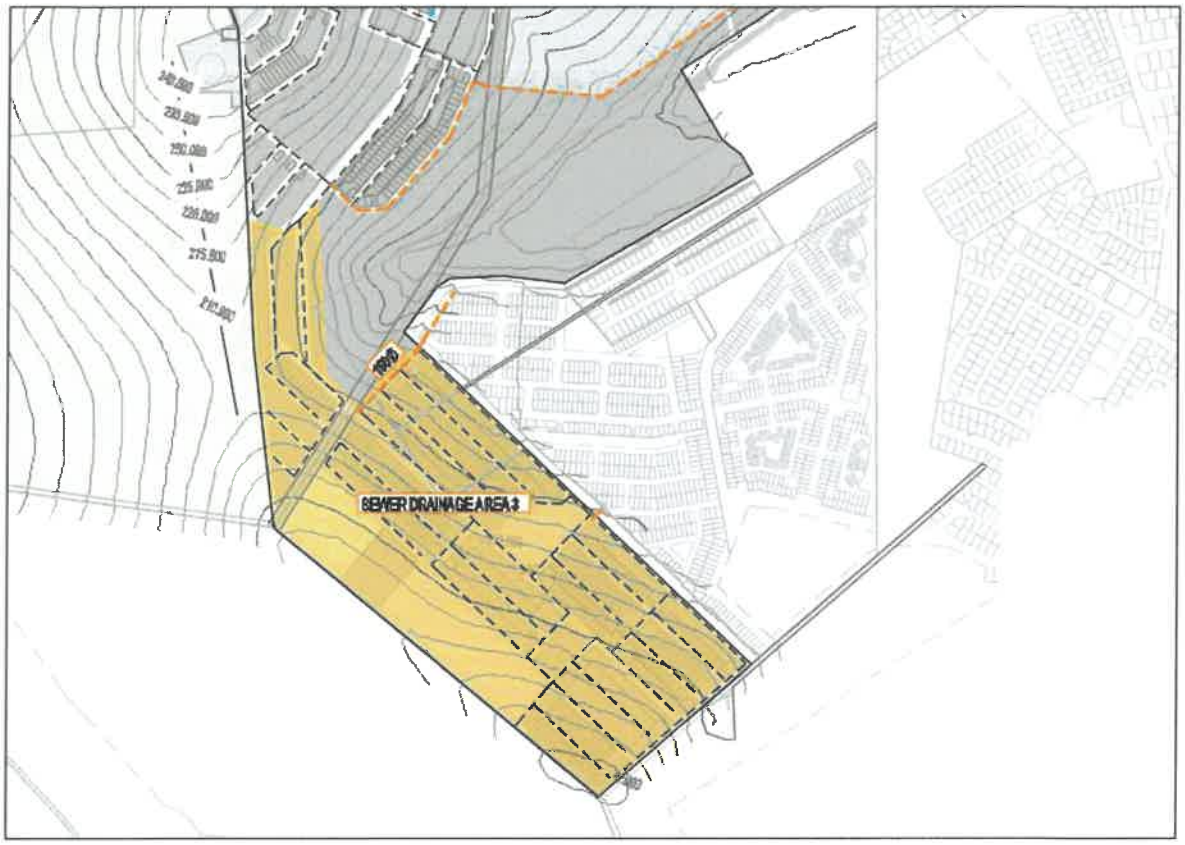


Figure 16: Sewage drainage area 3

5 Stormwater

The in-situ ground conditions are considered semipermeable open space with silty clay soils, grassland vegetation and light bush. Majority of the site slope towards the existing dam and river. The river flows from the Watergang dam along the south-east boundary in the direction of the regional road, R304 and crosses the road through a 2.46m x 2.5m concrete box culvert, creating a buffer between the proposed development and existing Kayamandi.

Figure 17 illustrates the high point and watershed essentially dividing the proposed development into two main catchment areas. The southern catchment will drain to the existing Watergang dam and river, and the Northern catchment will drain to proposed attenuation ponds.

Integrated stormwater systems in the open spaces, together with the natural features will be used to treat and accommodate stormwater flow. SuDS (Sustainable Design Systems) will be implemented within the street section and linear parks to reduce stormwater runoff. Three attenuation ponds are proposed along the north-western boundary of the site, which will ultimately discharge into the Plankenburg River.

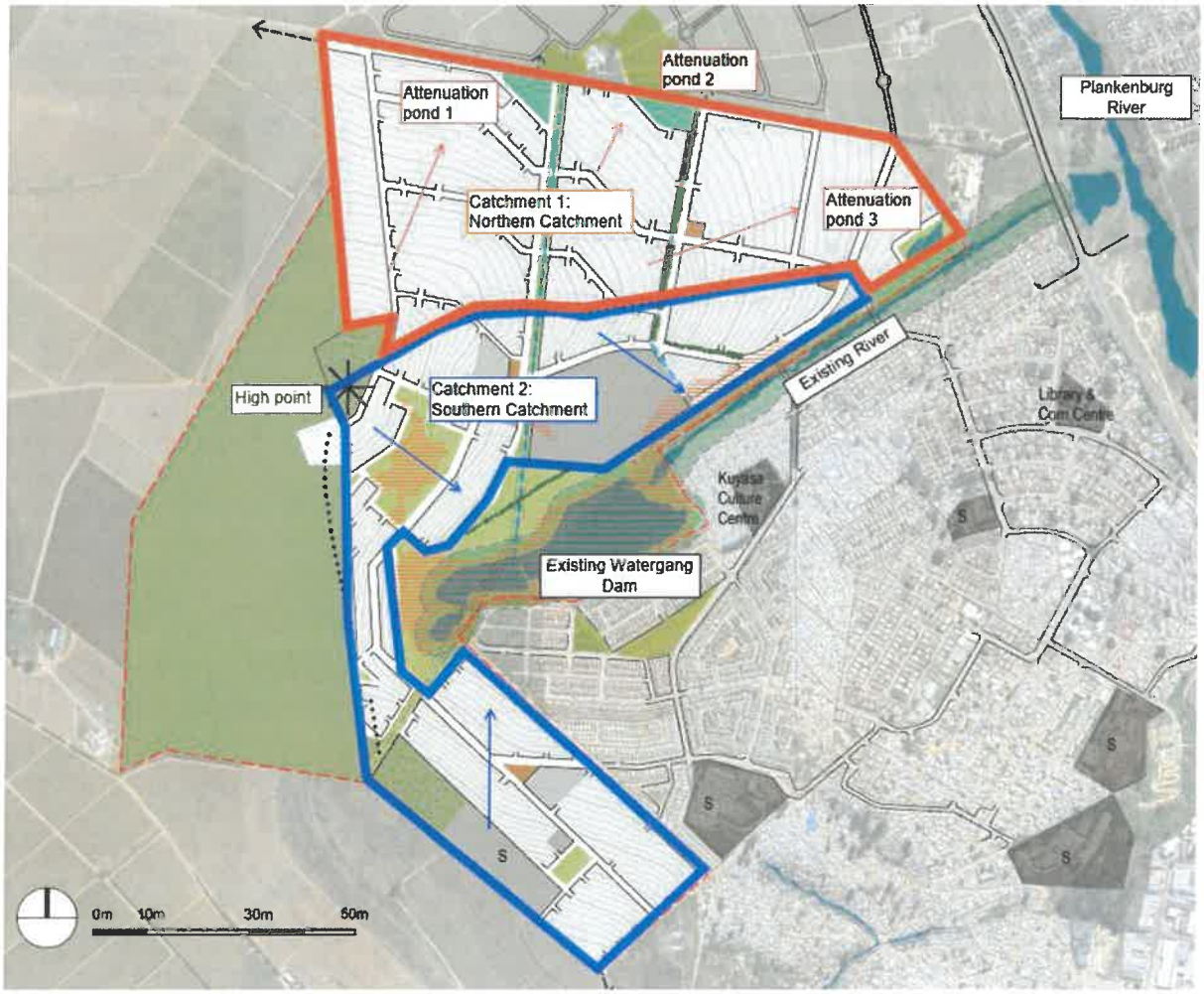


Figure 17: Overland stormwater flow

5.1 Design philosophy

The standard stormwater guidelines for residential developments as per (CSIR, 2019), and Drainage Manual (SANRAL, 2013), will be used for the design of the proposed stormwater system.

Specific attention will be given to the following:

- Stormwater run-off will be calculated using the Rational Method;
- Stormwater run-off will be modelled using PCSWMM software;
- Minor flows: Stormwater will be conveyed via swales and bio-retention to stormwater grid/side inlets and formally piped to be discharge in attenuation ponds / detention dams;
- Major flows: Safe overland flow directed to the proposed attenuation dam will be allowed for;
- For various recurrence interval (RI) storm event, the peak run-off after development will not exceed the peak run-off prior to development.

5.2 Rainfall

The Design Rainfall Estimation Program provides the 2 to 200-year recurrence interval (RI) rainfall depths (in mm) for various duration storm events for a specific longitude and latitude location. The 24-hour duration storm RI rainfall depths are provided in Table 6 below.

Table 6: The various RI storm events and related rainfall depths

Return Period (RI) (years)	Rainfall depth (mm)
2	56.5
5	75.8
10	89.9
20	104.5
50	125.4
100	141.8

5.3 Pre-development scenario

The pre-development (greenfield site) stormwater runoff of the development for various storm-events were simulated using PCSWMM software. For the pre-development scenario, the site was divided into two main catchments. Catchment 2 is further subdivided into two catchments, were catchment 2.1 is considered a brownfields site due to illegal informal settlement currently in the area. The parameters used for the different catchments in the pre-development model is summarised in Table 7. Utilizing the above design parameters, the catchment's flow rates for various return periods were calculated and is summarised in Table 8 below.

Table 7: Pre-development sub-catchment parameters for the PCSWMM model

Land use	Imperv (%)	Impervious roughness n	Pervious roughness n	DStor Imprev (mm)	DStor Perv (mm)	Zero Impervious (%)
Catchment 1	10	0.025	0.05	2	5	0
Catchment 2.1	10	0.025	0.05	2	5	0
Catchment 2.2	50	0.015	0.05	2	5	25

Table 8: Pre-development peak flows results from the PCSWMM model.

Peak run-off for Pre-development conditions			
Return period (years)	**Catchment 1 (m^3/s)**	**Catchment 2.1 (m^3/s)**	**Catchment 2.1 (m^3/s)**
1:5	1.469	1.067	2.914
1:10	1.769	1.276	3.533
1:50	2.527	1.801	5.113
1:100	2.913	2.082	5.879

5.4 Proposed Stormwater management concept

In line with the Red Book (CSIR, 2019) and Municipal Design Guidelines (Municipality, 2015), the proposed stormwater design will be based on restricting post-development peak flows to pre-development peak flows, for the same recurrence interval. The proposed stormwater design concept will comprise of smaller subdivided catchment areas conveying runoff generated from roads and parking areas to sustainable drainage systems such as grassblock areas, bio-retention gardens and dry swales incorporated in the road servitudes and open spaces. Attenuation of the difference between the pre- and post-development peak flows will be accommodated in the three attenuation ponds and in the existing dam.

Community facilities, commercial, and mixed-use sites within the development will be required to treat and attenuate the difference between their pre- and post-development peak run-off generated from the specific site on the site before discharging into the main stormwater system of the greater development.

5.4.1 Minor flood mitigation

By implementing the following Sustainable Drainage Systems (SuDS, 2013) we will be attempting to manage surface runoff holistically in line with the ideals of sustainable development. The design will aim to improve water quality, water treatment, enhance amenity and maintain biodiversity.

5.4.1.1 Bio-retention areas

Bio-retention areas are landscaped depressions used to manage stormwater runoff through several natural process such as filtration, adoption, biological uptake, and sedimentation. These areas will be implemented within in the road reserve to ensure treatment of minor storm runoff before it is appropriately discharged via a subsoil pipe into the main road stormwater system. Figure 18 illustrates a typical bio-retention design.

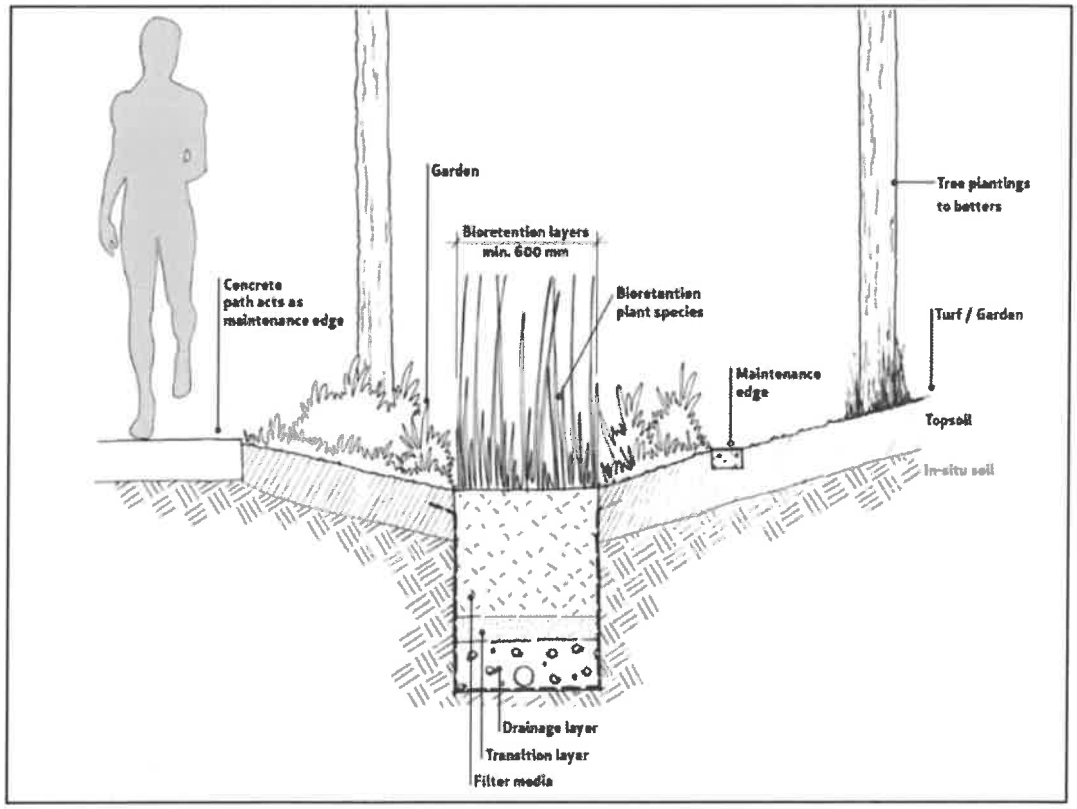


Figure 18: Typical design of a bio-retention gardens

5.4.1.2 Dry Swales

Swales are shallow vegetated open channels designed to convey, treat, and often attenuate surface water runoff. A dry swale is a vegetated conveyance channel which is designed to include a filter bed or prepared soil that overlays subsoil pipe system. This subsoil pipe system provides additional treatment and conveyance capacity beneath the base of the wale and prevents waterlogging. Figure 19 is a typical cross-section of a dry swale which will be implemented along the main roads and open green spaces.

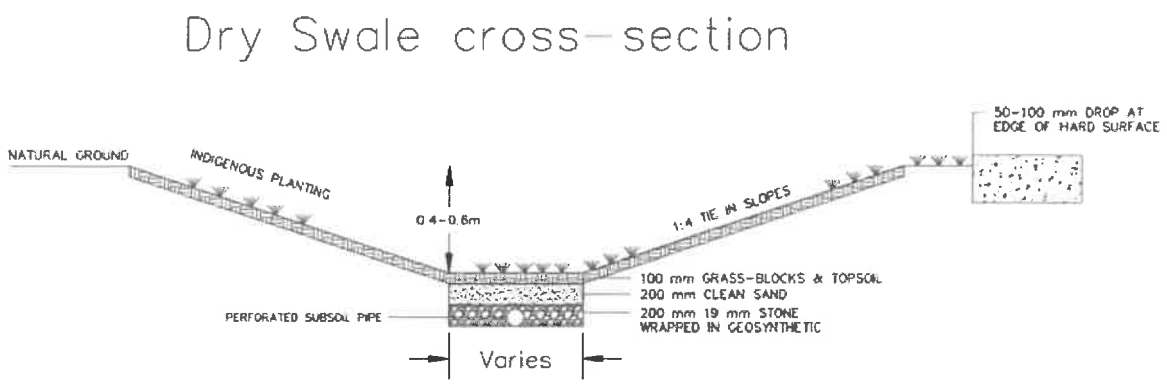


Figure 19: Typical cross section of a dry swale

5.5 Post-development scenario modelling

To simulate the stormwater runoff of the proposed development for the various storm events, the site is subdivided into various sub-catchments to accurately model runoff from the various areas on site. The sub-division is based on the surface types and other geometric constraints. The sub-catchment parameters used in the PCSWMM model are summarised in Table 9.

Assumptions made regarding land use and sub-catchment parameters:

- Roads: we have assumed that all roads will be asphalt and 20% of the road servitude will be desiccated to landscaping and SuDS;
- Commercial: we have assumed that all commercial properties will allocated 5% of the erf to landscaping and Suds and that 70% of the impervious area will be zero impervious (roof area) the other 30% is assumed to be parking / roads;
- Apartments: we have assume that 100% of the erf is impervious and 80% of the impervious area is allocated to roof area, the remainder 20% is allocated as parking. We have assumed that all the runoff from apartment sites will discharged into a landscaped / swale / detention pond before discharging into the main stormwater system;
- Residential: we have assumed that residential areas will include individual houses with minimal back yards, 5m asphalt roads, some landscaping along the road.
- Community Facilities: we have assumed that all industrial properties will allocated 5% of the erf to landscaping and Suds and that 70% of the impervious area will be zero impervious (roof area) the other 30% is assumed to be parking / roads;

Table 9: Post-development scenario sub-catchment parameters used in the PCSWMM model

Land use	Imperv (%)	Impervious roughness n	Pervious roughness n	DStor Imprev (mm)	Dstor Perv (mm)	Zero Impervious (%)
Roads	80%	0.015	0.05	2	5	25%
Commercial	95%	0.015	0.05	2	5	70%
Apartments	100%	0.015	0.05	2	5	80%
Residential	70%	0.015	0.05	2	5	80%
Community facility	95%	0.015	0.05	2	5	70%
School	40%	0.015	0.05	2	5	80%

The combined post-development run-off for 1:5, 1:10, 1:50 and 1:100 years recurrence intervals for the development were simulated using PCSWMM as shown in Figure 20. Control measures such as attenuation ponds with variable outlet control structures, swales and detention basins were simulated into the PCSWMM model, to reduce the post development run-off. The results and attenuation volume of the different ponds are shown in Table 10.

Table 10: Post-development result

Recurrence Interval	Peak Flows		Volume
	Pre-development (m^3/s) Greenfield	Combined Post-development (m^3/s) Catchment 1, 2.1 & 2	Attenuation Volume (m^3)
1:5 year	5.45	6.72	19.96
1:10 year	6.578	8.428	22.80
1:50 year	9.441	13.093	26.27
1:100 year	10.874	14.684	27.26



Figure 20: PCSWMM model

6 Roads

A Traffic Impact Assessment (TIA) was conducted, and a detailed report is attached in Appendix D

7 Electricity

The electricity section was completed by De Villiers & Moore (Pty) Ltd based on discussions and correspondence with the Stellenbosch Electricity Department. The latest site development concept and unit information was used for the demand calculations based as described in this report.

7.1 Assumptions

The following assumptions have been made for the basis of this report:

- Preliminary load estimates were calculated by using the project inception report, and co-ordinating the load-allocations with the municipality.
- MV-ring networks will be installed.
- Municipal road networks will be installed throughout the development.
- Bulk infrastructure to be installed will cater for the complete development's power requirements.

7.2 Existing infrastructure

The land for the planned development is un-serviced. Cables will be installed along the erf boundary to the south, which forms part of the planned bulk infrastructure upgrades by the municipality, which should be completed before the development is to start. The exact location / routing of these cables is to be finalised.

7.3 Proposed bulk electricity

- The availability of the estimated 18.8MVA electrical supply to the development was discussed with the Stellenbosch Municipality. The municipality indicated that they are busy with infrastructure upgrades to the proposed development area, which will cater for the required load. The required capacity for the development will be made available as per the rolling out plan of the development.
- The primary 11kV feed will be from Cloetesville 66kV/11kV substation. The development will require two switching substations and the secondary 11kV network supplying the development will feed from these two switching substations. Two 14m x 20m sites are required to allow for the switching substations. The positions of the substation sites are to be finalised during the detailed design stage of the project.
- A 3m wide servitude is to be registered along the southern boundary of the development, to allow for the future upgrades and cable routes.

7.4 Low voltage reticulation

- Each phase / area will be supplied with a low-voltage cable-network and kiosks, municipal metering and distributing consumer cables to each dwelling and building. All cabling will be done in accordance with Stellenbosch Municipal standards.
- All LV infrastructure will be installed in the municipal road reserve.
- The LV network will be supplied from minisubs connected to MV rings between the switching substations.

7.5 Street lighting

Municipal streetlights will be installed along all municipal roads. Street-light cabling will be installed in the road reserve and in Public Open Spaces. The streetlights will be according to municipal standards.

7.6 Fibre / communications infrastructure

Manholes and sleeves will be installed along all roads, to cater for fibre / Telkom communication services to each stand. The manholes and sleeves will be within the road reserve dedicated for services.

8 Solid waste

All waste generated will be temporarily stored in storage bins. The municipality will collect all bins from each site. All commercial, mixed use and community facilities should have refuse areas that is placed at a practical area with easy access for the Municipal Solid Waste Disposal Trucks of the Municipality. The waste collectors will transport the waste to a Waste Disposal Site as determined by the Municipality.

9 Conclusion

From this report the following conclusions can be made:

- The existing Kayamandi reservoir network, Kayamandi reservoir and Stellenbosch bulk water system has insufficient spare capacity to accommodate the entire proposed Northern Extension development area. A phased approach will be incorporated to the development, which will also lead to phasing of the bulk infrastructure required.

  The required water master plan items in order to reinforce the existing Stellenbosch water system to accommodate the entire proposed development can be summarised as follows:

System	Description	Estimated Cost
Reticulation	New supply pipelines, booster pump stations and pressure reducing valves from the Kayamandi Northern reservoir to the development area.	R17,498,000.00
Bulk	Bulk supply from the Papegaaiberg reservoir to the Kayamandi Northern reservoir.	R35,080,000.00
Bulk	Augmentation of bulk supply from Idas Valley WTP to Papegaaiberg reservoir.	R42,499,000.00
Reservoirs	10 ML Kayamandi Northern reservoir.	R33,785,000.00
Total Cost		R128,888,000.00

- The southern development areas of the larger Kayamandi Northern Extension development area can connect to the existing sewer infrastructure of Kayamandi. New collector sewers will however be required to service the northern development areas. It is proposed that these areas connect to the existing 450 mm diameter bulk sewer adjacent to the R304 Main Road.

  The Kayamandi internal sewer reticulation system has sufficient spare capacity to accommodate the southern development areas that can connect to the existing Kayamandi sewer network. New internal collector sewers are proposed to service the northern areas.

  The required sewer master plan items in order to accommodate full development of the Kayamandi Northern Extension development area within the existing Stellenbosch sewer system can be summarised as follows:

System	Description	Estimated Cost
Outfall sewers	New main outfall sewers	R8,686,000.00
Bulk	Bulk sewer upgrades (priority)	R4,762,000.00
Bulk	Bulk sewer upgrades	R10,847,000.00
Total Cost		R24,240,000.00

- The stormwater infrastructure would be designed as such to ensure the pre- and post-development flow rates are alike before been discharged into the existing infrastructure.

- The land for the planned development is un-serviced. Cables will be installed along the erf boundary to the south, which forms part of the planned bulk infrastructure upgrades by the municipality, which should be completed before the development is to start.

The primary 11kV feed will be from Cloetesville 66kV/11kV substation. The development will require two switching substations and the secondary 11kV network supplying the development will feed from these two switching substations. Two 14m x 20m sites are required to allow for the switching substations. The positions of the substation sites are to be finalised during the detailed design stage of the project.

The findings in this report must be confirmed at detail design stage.

10 Bibliography

CSIR. (2019). *The Neighbourhood Planning and Design Guide* . Pretoria, South Africa: Department of Human Settlements.

Department of Human Settlements . (2019). *The Neighbourhood Planning and Design Guide.* Pretoria, South Africa: South African Govenment .

Municipality, S. (2015). *Design Guidelines and Minimum Standards for Civil Engineering Services.* ENgineering Services Directorate .

SANRAL. (2013). *Drainage Manual 6th Edition.* Pretoria: The South African Roads Agency SOC Limited.

SuDS. (2013). *The South African Guidelines for Sustainable Drainage Systems.* Cape Town: University of Cape Towin.

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ANNEXURE R

Report

STELLENBOSCH NORTHERN EXTENSION: 1:50 AND 1:100 YEAR FLOODLINES

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STELLENBOSCH NORTHERN EXTENSION: 1:50 AND 1:100 YEAR FLOODLINES

1. SCOPE

Graeme McGill Consulting was appointed to determine the 1:50 and 1:100 floodlines for the proposed Stellenbosch Northern Extension.

The locality of the site is shown in Figure 1.



FIGURE 1 LOCALITY OF NORTHERN STELLEBOSCH EXTENSION

The study undertaken comprised the following:

FLOOD HYDROLOGY

Determination of flow peaks for return periods of 1:50 year and 1:100 year, calculated using standard hydrological methods namely, Rational Method, Standard Design Flood Method, and HEC-HMS using the SCS Runoff Method.

RIVER HYDRAULICS

Modelling the central watercourse using the water surface profile software package HEC-RAS. This required inputs from field observations, the survey data, any constraints and the peak flows, for floods of various return intervals.

Water surface profiles and flow velocities for a range of flows in the river are to be determined.

Determination of floodlines and demarcating of these in plan on drawings.

2. DATA ACQUISITION

2.1 SITE INSPECTION

The existing site conditions consist mainly of open areas, with grass cover and some bush. The top soil consists mainly of gravelly/clayey material.

The river flows along a fairly direct route from the south-east of the site in a north-westerly direction. The river passes through a dam at the upstream end of the site. It is breached and in dangerous condition. Building platforms have been excavated into the downstream face of the embarkment and informal housing has been erected on the platforms (Figure 5).

The river then flows north-westerly direction to the regional road R304 and crosses the road through a 2.46m x 2.5m concrete box culvert.

The river is overgrown with reeds and grass throughout the channel and informal housing encroaches into the channel (Figure 6).

2.2 TOPOGRAPHICAL SURVEY

To determine the extent of the larger sub-catchments, a topographical survey of the site and the river with 0,5m contours was carried out by Joubert and Brink Surveyors.



FIGURE 2: AREA UPSTREAM OF DAM



FIGURE 3: BREACHED DAM



FIGURE 4: BREACH IN DAM WALL



FIGURE 5: BUILDING PLATFORMS EXCAVATED INTO DAM EMBANKMENT



FIGURE 6: INFORMAL HOUSING ENCROACHING INTO CHANNEL



FIGURE 7: CHANNEL OVERGROWN WITH SHRUBS



FIGURE 8: INFORMAL HOUSES ON NORTHERN BANK OF CHANNEL



FIGURE 9: VIEW UPSTREAM FROM R304 CULVERT

3. FLOOD PEAK FLOWS

3.1 CATCHMENTS

The catchments which drain to the site are depicted in Figure 10. The overall catchment has been sub-divided in order to determine flood peaks at 3 locations:

- Start point upstream of the dam (SC1)
- The upper and lower catchments upstream of R304 (SC1 + SC2)
- The total catchment, upstream of R304 (SC1 + SC2 + SC3)

The parameters for these three sub-catchments are listed in Table 1.

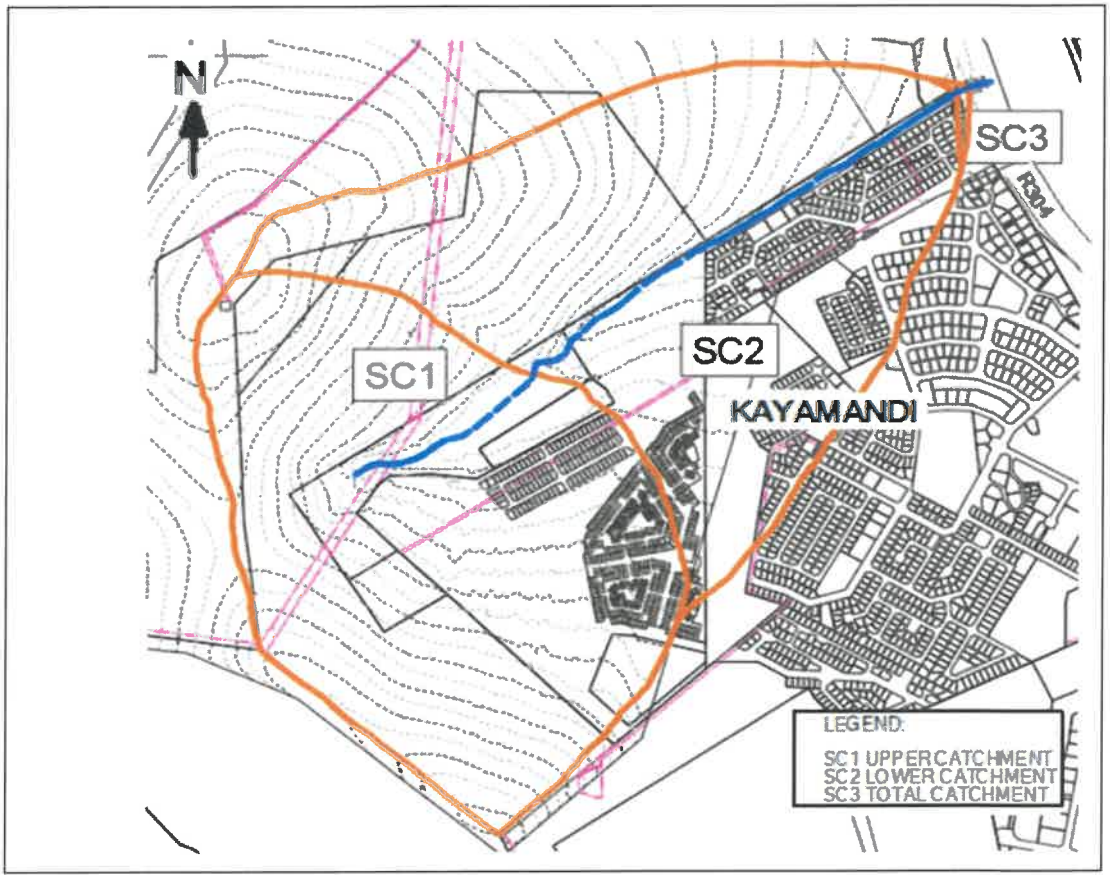


FIGURE 10: SUB-CATCHMENTS BOUNDARIES

TABLE 1: CATCHMENT PARAMETERS

PARAMETER	SC1	SC1+SC2	SC1+SC2+SC3
AREA (km²)	0.641	1.309	1.311
Average slope	11.85%	9.40%	9.34%
Length of longest collector (km)	0.95	1.92	1.94
Time of concentration (min)	5.9	13.2	13.4
Basin lag (min)	3.5	7.9	8.0
Runoff factor CN (SCS method)	77	77	77
NOTE: Sub-catchments at the dam, upstream & downstream boundary of Stellenbosch Northern Extension: SC1, SC2, SC3			

3.2 STORM DATA

The City of Cape Town commissioned the University of Kwazulu Natal to investigate the likely effect of climate change on storm intensities in the Western Cape. The recommendation from this investigation was that an increase of 15% over the existing IDF curves be allowed for. This was accepted by the City and a set of point storm rainfall depths has been prepared for a one minute by one minute grid covering the Western Cape

Two rainfall grid points were used. Figure 11 shows the positions and coordinates of the point in relation to the catchment areas.

The average rainfall from the two grid point locations have been selected for the peak flow analysis and the final weighted point rainfall figures are set out in Table 2.



FIGURE 11: RAINFALL GRID POINT LOCATION

TABLE 2: WEIGHTED POINT STORM RAINFALL DEPTHS EXTRACTED FROM CITY OF CAPE TOWN DESIGN GRID INCORPORATING A CLIMATE CHANGE FACTOR

RETURN PERIOD (YR)	EVENT DURATION (min)/RAINFALL (mm) (INC CC FACTOR)							
	10	30	60	120	240	360	720	1440
0.5	3.5	5.9	8.1	11.0	14.0	16.1	20.3	25.7
1	5.6	9.4	12.9	17.5	22.1	25.4	32.1	40.7
2	7.8	13.1	17.9	24.3	30.8	35.3	44.7	56.5
5	10.5	17.6	24.0	32.6	41.3	47.4	59.9	75.8
10	12.4	20.9	28.4	38.7	48.9	56.2	71.0	89.9
20	14.4	24.3	33.0	45.0	56.9	65.3	82.6	104.5
50	17.3	29.1	39.6	53.8	68.1	78.1	98.8	125.1
100	19.6	32.9	44.9	61.1	77.2	88.6	112.1	141.8

NOTES:
These data are for storm depths from points 33°55' S 18°50' E
33°55' S 18°51' E

3.3 FLOOD PEAKS

3.3.1 METHODOLOGY

The flood peak flows have been computed using three methods, namely: the Rational Method, SCS runoff method, and the Standard Design Flood.

The SCS runoff method defines a curvilinear hydrograph, infiltration is defined by the runoff coefficient CN and the catchment response is determined the basin lag time. The computation is done using the software HEC-HMS (US Army Corps of Engineers).

Professor WJR Alexander of University of Pretoria developed the Standard Design Flood (SDF) for South African conditions. It is similar to the Rational Method, but without the catchment size limitation.

3.3.2 RESULTS

The flow peaks were computed using four standards methods, namely the Rational method, SCS method in the HEC-HMS model, Standard Design Flood method, and the Empirical method.

The results for sub-catchments SC1, SC2, SC3 and the total catchment are summarised in Tables 3-6 and compared in Figures 4-7, respectively.

TABLE 3: PEAK FLOW ANALYSIS RESULT SUMMARY FOR SC 1

RI (YEARS)	RATIONAL METHOD (m^3/s)	HEC-HMS: SCS (m^3/s)	SDF (m^3/s)	EMPIRICAL - Midgley & Pitman (m^3/s)	REGIONAL MAXIMUM FLOOD METHOD (m^3/s)
10	2.85	8.00	8.4	13.8	-
20	3.42	10.30	11.4	17.3	-
50	4.43	13.50	15.7	22.6	25.6
100	5.43	16.20	19.3	26.6	33.8

TABLE 4: PEAK FLOW ANALYSIS RESULT SUMMARY FOR SC 2 (SC1+SC2)

RI (YEARS)	RATIONAL METHOD (m^3/s)	HEC-HMS: SCS (m^3/s)	SDF (m^3/s)	EMPIRICAL - Midgley & Pitman (m^3/s)	REGIONAL MAXIMUM FLOOD METHOD (m^3/s)
10	7.39	13.00	12.4	16.8	
20	8.86	16.60	16.9	21	
50	11.41	22.00	23.3	27.5	32.7
100	13.84	26.40	28.5	32.3	43.1

TABLE 5: PEAK FLOW ANALYSIS RESULT SUMMARY FOR SC3 (SC1+SC2+SC3)

RI (YEARS)	RATIONAL METHOD (m^3/s)	HEC-HMS: SCS (m^3/s)	SDF (m^3/s)	EMPIRICAL - Midgley & Pitman (m^3/s)	REGIONAL MAXIMUM FLOOD METHOD (m^3/s)
10	7.35	13.00	12.3	16.7	
20	8.82	16.60	16.8	20.9	
50	11.35	21.90	23.2	27.3	32.7
100	13.76	26.30	28.4	32.2	43.1

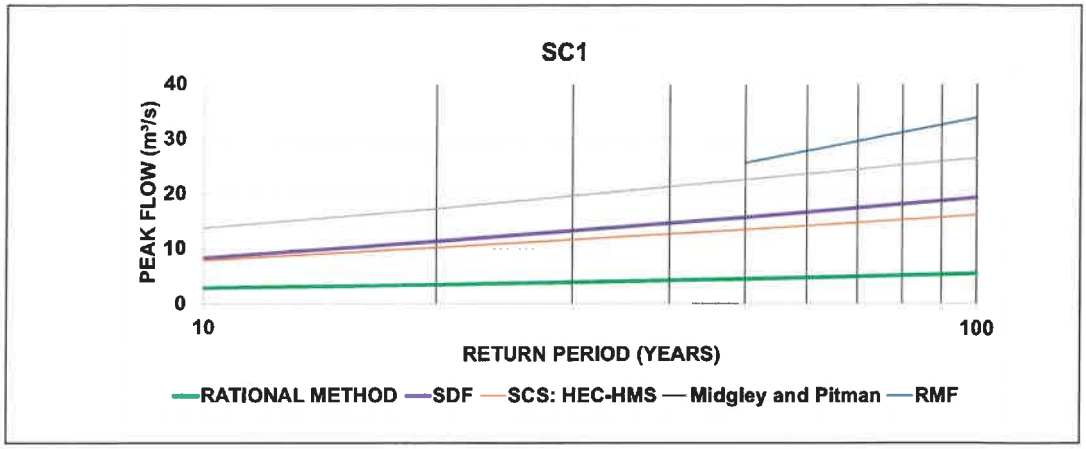


FIGURE 12: PEAK FLOW COMPARISON FOR SC1

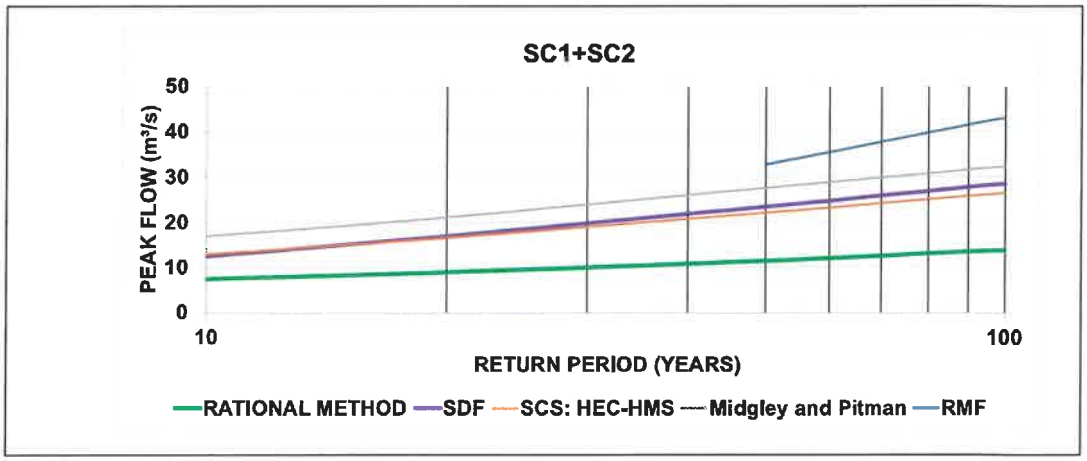


FIGURE 13: PEAK FLOW COMPARISON FOR SC2

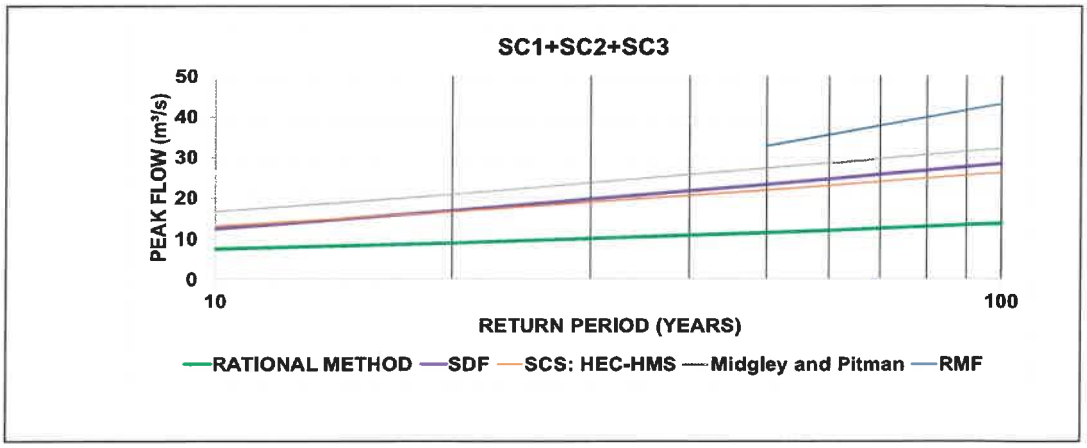


FIGURE 14: PEAK FLOW COMPARISON FOR SC2

It was found that the SCS: HEC HMS, the Standard Design Flood (SDF) and the Empirical method (Midgley and Pitman) yielded similar results and a simple average has been used as the design flood peaks for the different recurrence intervals. The average flows at three

locations along the river have been used to determine the 1:50year and 1:100 year floodlines.

The position of the three locations along the river are shown in Figure 9. The average flows excluding the Rational and the Empirical KOVACS at the three locations are summarised in Table 6.



FIGURE 15: RAINFALL GRID POINT LOCATION

TABLE 6: AVERAGE PEAK FLOWS ALONG THE RIVER

	AVERAGE PEAK FLOWS		
RI(YEARS)	DAM	X	DOWNSTREAM
10	10.1	12.0	14.0
20	13.0	15.6	18.1
50	17.3	20.7	24.1
100	20.7	24.8	29.0

4. FLOODLINES

The software package HEC-RAS (Ver 5.0.7) was used to compute the water surface profiles for the 1:50 and 1:100 year recurrence intervals as follows, using cross-sections from the two surveys and the flood peak flows (Table 6).

The upstream boundary condition was deemed to be the normal depth as defined by the river grade and the R304 with its culvert was the downstream control.

The estimated Manning n roughness coefficients, based on field inspections, for the river are given in Tables A1, Annexure A.

The results of the water surface profiles analysis are contained in Tables B1 and B2, respectively in Annexure B. From these results the floodline energy levels have been plotted on the accompanying drawing MC356-C400.

5. CONCLUSIONS

The Manning "n" values used along the river cross-sections are based on field observations and are summarised in Table A1, Annexure A.

The average peak flows of the SCS: HEC-HMS, Standard Design Flood and Empirical method (Midgley and Pitman) were selected for the analysis (Tables 6).

Modelling of the central river was done by using the water surface profile software package HEC-RAS. The water surface results are given in Annexure B.

Floodlines representing the locations of the water surface lines, were prepared as described in this report for the 1:50 and 1:100 year events for the current conditions on site. (Drawing MC356-C400).

ANNEXURE A: CHANNEL MANNING n VALUES FOR THE RIVER

TABLE A1 MANNING n VALUES FOR THE RIVER

River Station	LEFT BANK	CHANNEL	RIGHT BANK
1426.56	0.035	0.04	0.15
1425	0.035	0.04	0.15
1400	0.035	0.04	0.15
1375	0.035	0.04	0.15
1350	0.035	0.04	0.15
1325	0.035	0.04	0.15
1300	0.035	0.04	0.15
1275	0.035	0.04	0.15
1250	0.035	0.04	0.15
1225	0.035	0.04	0.15
1200	0.035	0.04	0.15
1175	0.035	0.04	0.15
1150	0.035	0.04	0.15
1125	0.035	0.04	0.15
1100	0.035	0.04	0.15
1075	0.035	0.04	0.15
1050	0.035	0.04	0.15
1025	0.035	0.04	0.15
1000	0.035	0.04	0.15
975	0.035	0.04	0.15
950	0.035	0.04	0.15
925	0.035	0.04	0.15
900	0.035	0.04	0.15
875	0.035	0.04	0.15
850	0.035	0.04	0.15
825	0.035	0.04	0.15
800	0.035	0.04	0.15
775	0.035	0.04	0.15
750	0.035	0.04	0.15

River Station	LEFT BANK	CHANNEL	RIGHT BANK
725	0.035	0.04	0.15
700	0.035	0.04	0.15
675	0.035	0.04	0.15
650	0.035	0.04	0.15
625	0.035	0.04	0.15
600	0.035	0.04	0.15
575	0.035	0.04	0.15
550	0.035	0.04	0.15
525	0.035	0.04	0.15
500	0.035	0.04	0.15
475	0.035	0.04	0.15
450	0.035	0.04	0.15
425	0.035	0.04	0.15
400	0.035	0.04	0.15
375	0.035	0.04	0.15
350	0.035	0.04	0.15
325	0.035	0.04	0.15
300	0.035	0.04	0.15
275	0.035	0.04	0.15
250	0.035	0.04	0.15
225	0.035	0.04	0.15
200	0.035	0.04	0.15
175	0.035	0.04	0.15
150	0.035	0.04	0.15
125	0.035	0.04	0.15
100	0.035	0.04	0.15
75	0.035	0.04	0.15
50	0.035	0.04	0.15
25	0.035	0.04	0.15
0	0.035	0.04	0.15

Notes: The data in this table applies to both the 1:50 year and 1:100 year conditions.

ANNEXURE B: HEC-RAS WATER PROFILE RESULTS

TABLE B1. 1:50 YEAR WATER SURFACE PROFILES

River Station	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope %	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
1426.56	14.71	165.12	165.73	166.00	166.60	0.106	4.13	3.56	9.69	2.18
1425	14.71	164.85	165.34	165.62	166.38	0.165	4.52	3.26	10.91	2.64
1400	14.71	162.47	162.93	163.10	163.42	0.081	3.09	4.76	16.53	1.84
1375	14.71	159.01	159.54	159.78	160.47	0.181	4.25	3.46	13.56	2.69
1350	14.71	157.04	157.76	157.88	158.18	0.049	2.87	5.13	13.67	1.49
1325	14.71	156.15	156.91	156.67	156.96	0.004	0.98	14.91	28.59	0.43
1300	14.71	156.20	156.63	156.63	156.77	0.022	1.58	8.90	32.41	0.96
1275	14.71	155.37	155.75	155.82	156.02	0.041	1.98	6.49	24.58	1.27
1250	14.71	151.79	152.06	152.31	153.43	0.502	5.18	2.84	17.89	4.15
1225	14.71	151.28	151.85	151.85	152.01	0.024	1.79	8.22	25.92	1.01
1200	14.71	150.27	151.89	150.81	151.90	0.000	0.28	54.84	50.20	0.08
1175	14.71	150.09	151.90		151.90	0.000	0.13	118.51	83.25	0.03
1150	14.71	150.07	151.90		151.90	0.000	0.1	155.53	101.46	0.02
1125	14.71	150.10	151.90		151.90	0.000	0.08	188.30	118.59	0.02
1100	14.71	150.15	151.90		151.90	0.000	0.08	189.00	115.75	0.02
1075	14.71	150.13	151.89		151.90	0.000	0.07	199.19	121.15	0.02
1050	14.71	150.13	151.89		151.90	0.000	0.07	218.40	133.78	0.02
1025	17.82	149.90	151.40	151.40	151.85	0.019	2.98	5.98	6.62	1
1000	17.82	147.78	147.56	148.01	149.97	3.170		2.59	5.54	0
975	17.82	143.93	143.11	143.11	143.51	0.261		6.41	8.20	0
950	17.82	141.22	141.91	141.91	142.09	0.023	1.89	9.43	26.38	1.01
925	17.82	140.36	140.77	140.88	141.15	0.067	2.75	6.49	23.47	1.67
900	17.82	139.17	139.70	139.76	139.97	0.033	2.29	7.77	21.68	1.22
875	17.82	138.19	138.94	138.98	139.19	0.029	2.18	8.22	23.98	1.15
850	17.82	136.93	137.95	138.05	138.45	0.028	3.11	5.73	8.65	1.22
825	17.82	136.56	137.70	137.70	137.97	0.021	2.3	7.75	14.79	1.01
800	17.82	135.38	136.18	136.45	137.06	0.065	4.17	4.27	7.80	1.8
775	17.82	134.85	135.76	135.77	136.04	0.021	2.31	7.71	14.72	1.02
750	17.82	134.23	134.82	134.94	135.23	0.055	2.84	6.28	18.48	1.55
725	17.82	133.71	134.46	134.46	134.66	0.022	2.01	9.40	24.70	1
700	17.82	132.63	133.49	133.62	133.95	0.036	2.99	5.96	11.75	1.34
675	17.82	132.12	133.12	132.93	133.23	0.007	1.43	12.42	21.49	0.6
650	17.82	131.65	132.98		133.06	0.006	1.31	13.81	26.61	0.55
625	20.94	131.77	132.53	132.53	132.80	0.019	2.35	11.45	25.42	1
600	20.94	129.02	130.02	130.55	131.69	0.120	5.72	3.66	6.47	2.43
575	20.94	128.66	129.67	129.74	130.09	0.026	2.86	7.32	12.14	1.18
550	20.94	127.67	128.64	128.82	129.26	0.040	3.51	5.97	9.77	1.43
525	20.94	126.46	127.80	127.97	128.37	0.031	3.34	7.20	16.62	1.28
500	20.94	125.50	126.64	126.89	127.42	0.045	3.89	5.39	8.19	1.53
475	20.94	124.56	125.80	125.95	126.38	0.035	3.38	6.20	9.66	1.35
450	20.94	123.68	124.57	124.80	125.30	0.053	3.8	5.51	10.17	1.65

River Station	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope %	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
425	20.94	122.26	124.17	124.18	124.58	0.020	2.83	7.41	9.24	1.01
400	20.94	121.70	123.04	123.31	123.84	0.044	3.95	5.30	7.42	1.49
375	20.94	120.93	122.02	122.27	122.78	0.040	3.84	5.54	11.21	1.46
350	20.94	120.19	121.57	121.61	121.99	0.020	2.89	7.51	14.73	1.04
325	20.94	119.25	120.12	120.44	121.11	0.065	4.4	4.76	8.01	1.82
300	20.94	118.42	119.75	119.77	120.19	0.019	2.96	7.09	8.60	1.03
275	20.94	117.64	118.69	118.92	119.45	0.048	3.86	5.42	8.86	1.58
250	20.94	116.61	117.81	117.97	118.47	0.031	3.61	5.80	7.11	1.28
225	20.94	115.60	117.22	117.30	117.72	0.026	3.13	6.69	9.06	1.16
200	20.94	114.51	116.26	116.44	116.97	0.032	3.74	5.60	6.44	1.28
175	20.94	114.21	115.61	115.72	116.19	0.027	3.4	6.16	7.62	1.21
150	20.94	113.73	115.01	115.09	115.56	0.023	3.26	6.42	7.50	1.12
125	20.94	112.34	115.04	114.09	115.14	0.002	1.42	15.13	11.10	0.35
100	20.94	111.78	115.07		115.09	0.000	0.7	36.39	38.98	0.17
75	20.94	110.55	115.08	112.50	115.09	0.000	0.46	60.00	43.43	0.08
64.396	Culvert									
50	20.94	109.92	115.07	111.59	115.08	0.000	0.34	105.89	114.61	0.06
44.493	Culvert									
25	20.94	113.94	114.43	114.43	114.57	0.022	1.93	21.64	92.43	1.01
0	20.94	112.43	112.64	112.78	113.20	0.242	3.3	6.35	45.62	2.82

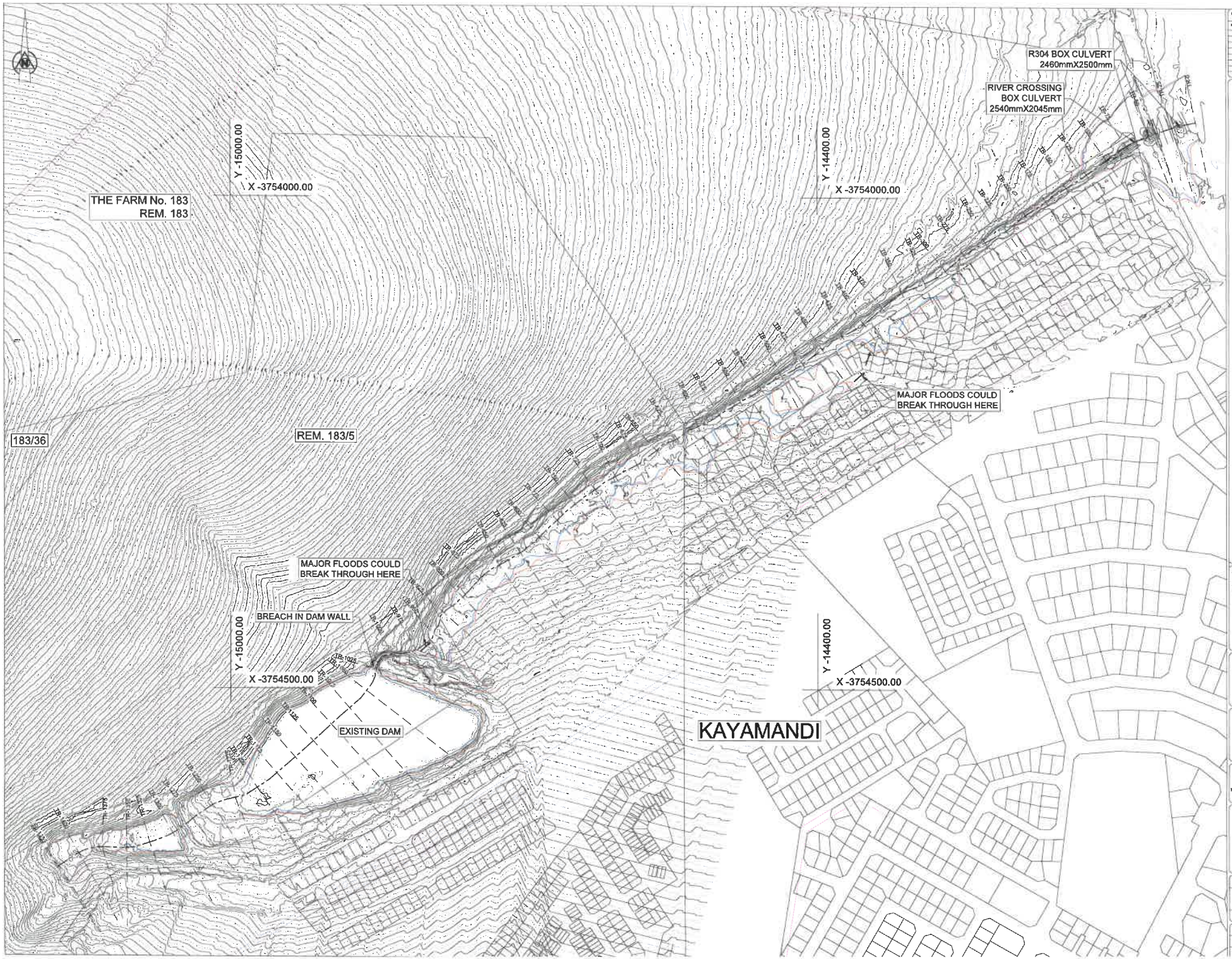
TABLE B2. 1:100 YEAR WATER SURFACE PROFILES

River Station	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope %	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
1426.56	17.69	165.12	165.78	166.07	166.76	0.11	4.37	4.05	10.13	2.20
1425	17.69	164.85	165.39	165.69	166.53	0.16	4.74	3.73	11.52	2.66
1400	17.69	162.47	162.96	163.14	163.52	0.08	3.31	5.34	17.04	1.89
1375	17.69	159.01	159.58	159.85	160.59	0.17	4.45	3.97	13.91	2.66
1350	17.69	157.04	157.81	157.94	158.30	0.05	3.10	5.71	13.88	1.54
1325	17.69	156.15	156.97	156.72	157.03	0.00	1.07	16.37	28.83	0.45
1300	17.69	156.20	156.67	156.67	156.83	0.02	1.67	10.18	32.98	0.96
1275	17.69	155.37	155.78	155.86	156.09	0.04	2.10	7.33	25.58	1.30
1250	17.69	151.79	152.09	152.35	153.53	0.46	5.31	3.33	18.78	4.03
1225	17.69	151.28	152.01	151.89	152.11	0.01	1.40	12.62	27.67	0.66
1200	17.69	150.27	152.07		152.08	0.00	0.29	63.96	52.21	0.08
1175	17.69	150.09	152.07		152.07	0.00	0.14	133.48	84.77	0.03
1150	17.69	150.07	152.07		152.07	0.00	0.10	173.70	102.43	0.02
1125	17.69	150.10	152.07		152.07	0.00	0.09	209.50	119.31	0.02
1100	17.69	150.15	152.07		152.07	0.00	0.09	209.73	116.82	0.02
1075	17.69	150.13	152.07		152.07	0.00	0.08	220.87	122.13	0.02
1050	17.69	150.13	152.07		152.07	0.00	0.07	242.34	134.79	0.02
1025	21.43	149.90	151.53	151.53	152.02	0.02	3.11	6.89	6.99	1.00
1000	21.43	147.78	147.64	148.08	150.18	2.96		3.03	5.88	0.00
975	21.43	143.93	143.23	143.24	143.66	0.26		7.42	8.81	0.00
950	21.43	141.22	141.94	141.96	142.16	0.02	2.05	10.44	27.61	1.06
925	21.43	140.36	140.81	140.93	141.22	0.06	2.83	7.57	24.01	1.61

River Station	Q Total (m3/s)	Min Ch El (m)	W.S. Elev (m)	Crit W.S. (m)	E.G. Elev (m)	E.G. Slope %	Vel Chnl (m/s)	Flow Area (m2)	Top Width (m)	Froude # Chl
900	21.43	139.17	139.74	139.81	140.06	0.04	2.50	8.57	22.06	1.28
875	21.43	138.19	138.99	139.03	139.26	0.03	2.30	9.45	24.98	1.14
850	21.43	136.93	138.07	138.16	138.58	0.03	3.17	6.77	9.13	1.17
825	21.43	136.56	137.78	137.78	138.07	0.02	2.39	8.97	15.82	1.01
800	21.43	135.38	136.27	136.58	137.20	0.06	4.28	5.00	8.19	1.75
775	21.43	134.85	135.82	135.85	136.14	0.02	2.50	8.57	15.86	1.09
750	21.43	134.23	134.88	135.00	135.31	0.05	2.93	7.32	19.00	1.50
725	21.43	133.71	134.52	134.52	134.74	0.02	2.07	11.06	26.81	0.99
700	21.43	132.63	133.58	133.71	134.06	0.03	3.05	7.02	12.92	1.32
675	21.43	132.12	133.19	133.00	133.31	0.01	1.53	14.22	29.93	0.62
650	21.43	131.65	133.05		133.15	0.01	1.40	15.79	28.15	0.55
625	25.17	131.77	132.63	132.63	132.90	0.02	2.38	14.46	32.26	0.95
600	25.17	129.02	130.11	130.65	131.88	0.11	5.90	4.27	6.89	2.40
575	25.17	128.66	129.73	129.84	130.22	0.03	3.11	8.10	12.60	1.24
550	25.17	127.67	128.74	128.94	129.40	0.04	3.60	7.00	10.40	1.40
525	25.17	126.46	127.88	128.07	128.52	0.03	3.58	8.49	18.37	1.34
500	25.17	125.50	126.75	127.01	127.57	0.04	4.00	6.29	8.64	1.50
475	25.17	124.56	125.87	126.09	126.55	0.04	3.63	6.93	10.12	1.40
450	25.17	123.68	124.65	124.90	125.45	0.05	3.96	6.35	10.72	1.64
425	25.17	122.26	124.30	124.30	124.74	0.02	2.92	8.62	9.95	1.00
400	25.17	121.70	123.15	123.43	124.00	0.04	4.07	6.18	8.36	1.51
375	25.17	120.93	122.12	122.37	122.95	0.04	4.05	6.87	18.62	1.48
350	25.17	120.19	121.65	121.74	122.14	0.02	3.12	8.86	18.10	1.08
325	25.17	119.25	120.22	120.55	121.26	0.06	4.52	5.57	8.57	1.79
300	25.17	118.42	119.89	119.90	120.36	0.02	3.02	8.38	9.33	1.00
275	25.17	117.64	118.76	119.03	119.63	0.05	4.13	6.09	9.17	1.62
250	25.17	116.61	117.93	118.10	118.65	0.03	3.74	6.72	7.52	1.26
225	25.17	115.60	117.29	117.43	117.89	0.03	3.41	7.38	9.43	1.23
200	25.17	114.51	116.42	116.59	117.14	0.03	3.76	6.69	7.23	1.25
175	25.17	114.21	115.69	115.85	116.39	0.03	3.70	6.80	7.88	1.27
150	25.17	113.73	115.16	115.22	115.73	0.02	3.32	7.58	7.95	1.09
125	25.17	112.34	115.06	114.23	115.21	0.00	1.68	15.43	11.25	0.41
100	25.17	111.78	115.12		115.15	0.00	0.80	38.13	39.71	0.19
75	25.17	110.55	115.12	112.66	115.14	0.00	0.54	61.98	44.14	0.10
64	Culvert									
50	25.17	109.92	115.12	111.73	115.13	0.00	0.40	111.50	116.77	0.07
44	Culvert									
25	25.17	113.94	114.47	114.47	114.62	0.02	2.01	25.55	95.31	1.00
0	25.17	112.43	112.66	112.82	113.30	0.25	3.57	7.06	46.86	2.93

Notes:

1. This data is based on the survey provided by Joubert & Brink Surveys, - File No. 21214_NE-Part1, July 2021.


R304 BOX CULVERT
2460mmX2500mm
RIVER CROSSING
BOX CULVERT
2540mmX2045mm
Y -15000.00
X -3754000.00
Y -14400.00
X -3754000.00
THE FARM No. 183
REM. 183
183/36
REM. 183/5
MAJOR FLOODS COULD
BREACH THROUGH HERE
MAJOR FLOODS COULD
BREAK THROUGH HERE
BREACH IN DAM WALL
Y -15000.00
X -3754500.00
Y -14400.00
X -3754500.00
EXISTING DAM
KAYAMANDI
REVISION:
No. DATE DESCRIPTION
LEGEND
CADASTRAL BOUNDARY
1m CONTOURS
0.5m CONTOURS
SERVITUDE AREAS
RIVER CENTERLINE
1:50 YEAR FLOODLINE
1:100 YEAR FLOODLINE
PROJECT:
STELLENBOSCH
NORTHERN
EXTENSION
DRAWING TITLE
1:50 AND 1:100 YEAR
FLOODLINES
CLIENT
ZUTARI
Tel: 021 525 9400
1 Century city Drive
Cape Town
7441
Graeme McGill
consulting
Tel: 031 970 0305
Cell: 083 550 9106
Fax: 086 517 8674
PO Box 332
DURBANVILLE
7551
graeme@mcgillconsulting.co.za
DRAWN BY
DESIGNED BY
JA CIBANGWA
GA McGILL Pr Eng
No. 780566
DATE
2021-09-20
SCALE
1:1250 (A0)
DRAWING NO
MC366-C400
REVISION
A

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE S

7.3.3	POSSIBLE DISPOSAL OF TWO PORTIONS OF LAND IN THE KAYAMANDI NORTHERN EXTENSION

Collaborator No: 795750
IDP KPA Ref No: Good Governance
Meeting Date: 17 October 2025

F 182 SB

1. SUBJECT: POSSIBLE DISPOSAL OF TWO PORTIONS OF LAND IN THE KAYAMANDI NORTHERN EXTENSION

2. PURPOSE

To obtain Council's in-principle approval for the disposal of two portions of land in the Kayamandi Northern Extension for Educational purposes.

3. DELEGATED AUTHORITY

For decision by Municipal Council.

4. EXECUTIVE SUMMARY

It is a well-known fact that there is an urgent need for more schools in the Stellenbosch Municipal area. In the Kayamandi area there is currently a crisis in primary school education due to the number of students far outweighing the capacity of the schools in the area and the availability of land to construct new schools. The Municipality has been approached by several non-profit organisations who have indicated their willingness to assist in the establishment of new schools in several areas. One of the areas which is mentioned is Kayamandi, more specifically the Kayamandi Northern Extension. On the current design of the Northern Extension there are two portions of land which has been zoned Educational Zone. It is important to note that the Dite Development Plan has not been finally approved by the Municipal Planning Tribunal however there will be two portions of land that will be zoned for educational purposes. According to the Housing Development Department the Kayamandi Northern Extension should be before the Municipal Planning Tribunal by the end of November 2025 where they are expecting final approval.

Council needs to consider giving its in-principle approval for the disposal of these two portions of land by following a competitive process if the land is to be sold or leased to a private entity or non-profit organisation. Council further needs to approve the public participation process.

RECOMMENDATIONS FROM THE EXECUTIVE MAYOR, IN CONSULTATION WITH THE EXECUTIVE MAYORAL COMMITTEE, TO COUNCIL: 2025-10-17: ITEM 7.3.3

(a) that Council takes note of the need for schools in the Kayamandi area;

(b) that Council confirms that the two portions of land earmarked for educational purposes on the Site Development Plan for the Kayamandi Northern Extension is not needed to provide the basic minimum municipal services;

(c) that Council approves, in-principle, the disposal of the two portions of land in the Kayamandi Northern Extension that has been earmarked for educational purposes;

The application does not indicate the period of lease he is interests in and the current zoning of the property is Public Open Space.

The matter was before the Executive Mayoral Committee in March 2025 however it was referred back to the administration.

EXECUTIVE MAYORAL COMMITTEE: 2025-10-17:ITEM 7.3.2

Given the comments from infrastructure that there is an electrical network underground, and that the erf has a portion of protected wetland. Additionally, considering that the area is zoned as a public open space, the application is not supported. The applicant must be notified and mandated to remove the vehicles within seven (7) days of the receipt of the said correspondence.

RESOLVED

(a) that the lease of the public open space is not approved;

(b) that the applicant be informed that he needs to remove his vehicles within seven (7) days after receipt of the said correspondence and restore the area, and

(c) that law enforcement must enforce this decision.

FOR FURTHER DETAILS CONTACT:

NAME	***Yolande van den Berg***
POSITION	***Head: Contract Management***
DIRECTORATE	***Corporate Services***
CONTACT NUMBERS	***021-8088073***
E-MAIL ADDRESS	Yolande.vandenberg@stellenbosch.gov.za
REPORT DATE	***13/10/2025***

(d) that a valuator be appointed to determine the fair market related rental alternatively sales price and that the land be made available at a percentage of the market related price to a Non-Profit Organisation; and

(e) that Council authorises the administration to attend to the public participation process whereafter the item will return to Council for a final decision.

FOR FURTHER DETAILS CONTACT:

NAME	**Yolande van den Berg**
POSITION	***Head: Contract Management***
DIRECTORATE	***Corporate Services***
CONTACT NUMBERS	***021-808 8073***
E-MAIL ADDRESS	Yolande.vandenberg@stellenbosch.gov.za
REPORT DATE	***2025/10/08***

7.4	FINANCIAL SERVICES: (PC: ALD JC ANTHONY)

NONE

7.5	HUMAN SETTLEMENTS: (PC: CLLR R DU TOIT)

NONE

URGENT ITEM

7.3	CORPORATE SERVICES: (PC: CLLR L NKAMISA)

7.3.3	POSSIBLE DISPOSAL OF TWO PORTIONS OF LAND IN THE KAYAMANDI NORTHERN EXTENSION

Collaborator No:
IDP KPA Ref No: **Good Governance**
Meeting Date: **17 October 2025**

1. SUBJECT: POSSIBLE DISPOSAL OF TWO PORTIONS OF LAND IN THE KAYAMANDI NORTHERN EXTENSION

2. PURPOSE

To obtain Council's in-principle approval for the disposal of two portions of land in the Kayamandi Northern Extension for Educational purposes.

3. DELEGATED AUTHORITY

For decision by Municipal Council.

4. EXECUTIVE SUMMARY

It is a well-known fact that there is an urgent need for more schools in the Stellenbosch Municipal area. In the Kayamandi area there is currently a crisis in primary school education due to the number of students far outweighing the capacity of the schools in the area and the availability of land to construct new schools. The Municipality has been approached by several non-profit organisations who have indicated their willingness to assist in the establishment of new schools in several areas. One of the areas which is mentioned is Kayamandi, more specifically the Kayamandi Northern Extension. On the current design of the Northern Extension there are two portions of land which has been zoned Educational Zone. It is important to note that the Dite Development Plan has not been finally approved by the Municipal Planning Tribunal however there will be two portions of land that will be zoned for educational purposes. According to the Housing Development Department the Kayamandi Northern Extension should be before the Municipal Planning Tribunal by the end of November 2025 where they are expecting final approval.

Council needs to consider giving its in-principle approval for the disposal of these two portions of land by following a competitive process if the land is to be sold or leased to a private entity or non-profit organisation. Council further needs to approve the public participation process.

5. RECOMMENDATIONS

(a) that Council takes note of the need for schools in the Kayamandi area;

(b) that Council confirms that the two portions of land earmarked for educational purposes on the Site Development Plan for the Kayamandi Northern Extension is not needed to provide the basic minimum municipal services;

(c) that Council approves, in-principle, the disposal of the two portions of land in the Kayamandi Northern Extension that has been earmarked for educational purposes;

(d) that a valuator be appointed to determine the fair market related rental alternatively sales price and that the land be made available at a percentage of the market related price to a Non-Profit Organisation; and

(e) that Council authorises the administration to attend to the public participation process whereafter the item will return to Council for a final decision.

6. DISCUSSION / CONTENT

6.1 Background

It is a well-known fact that there is an urgent need for more schools in the Stellenbosch Municipal area. In the Kayamandi area there is currently a crisis in primary school education due to the number of students far outweighing the capacity of the schools in the area and the availability of land to construct new schools. The Municipality has been approached by several non-profit organisations who have indicated their willingness to assist in the establishment of new schools in several areas. An example of one of the entities who have indicated their willingness to build and operate a new school is the Greater Stellenbosch Trust. A copy of their letter is attached hereto as **APPENDIX 1**.

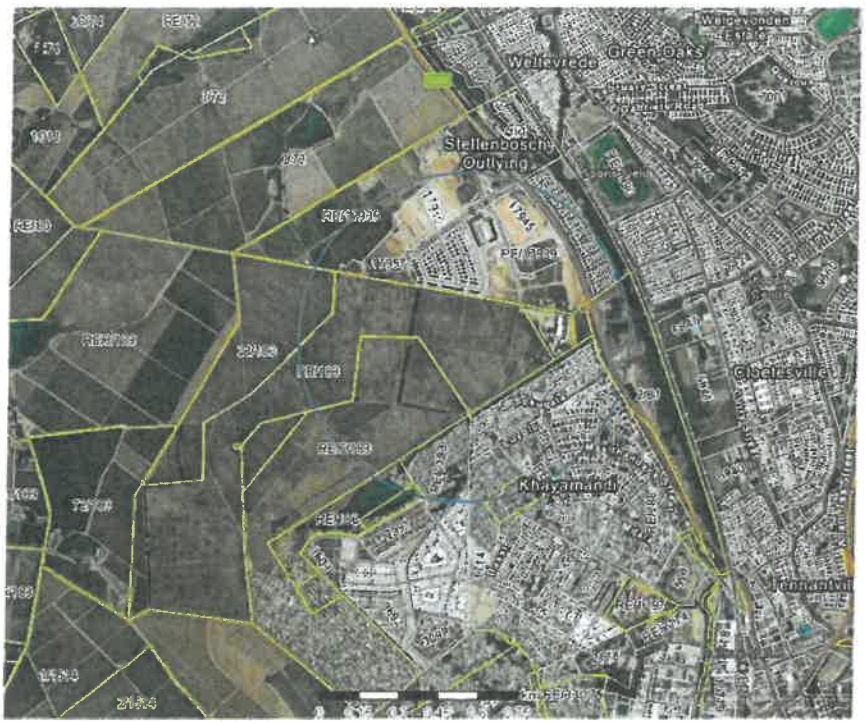
On the current design of the Northern Extension there are two portions of land which has been zoned Educational Zone. It is important to note that the Dite Development Plan has not been finally approved by the Municipal Planning Tribunal however there will be two portions of land that will be zoned for educational purposes. According to the Housing Development Department the Kayamandi Northern Extension should be before the Municipal Planning Tribunal by the end of November 2025 where they are expecting final approval. A copy of the current design for the Northern Extension is attached hereto as **APPENDIX 2.**

Council needs to consider giving its in-principle approval for the disposal of these two portions of land by following a competitive process if the land is to be sold or leased to a private entity or non-profit organisation. Council further needs to consider approving that the land can be sold or leased at a percentage of the market related rental due to the economic and community benefit of the disposal of the land as well as the plight of the poor.

6.2. DISCUSSION

6.2.1 Location and context

The two portions of land are indicated on **APPENDIX 2** attached to the item.


Welgevonden Estate
Welgevreden
Green Oaks
Stellenbosch Outlying
Klapmuts
Elsenburg
Koelenhof
Vlottenberg
Raithby
Devon Valley
Klapmuts
Elsenburg
Koelenhof
Vlottenberg
Raithby
Devon Valley
Stellenbosch

6.2.4.2 Asset Transfer Regulation (ATR)

6.2.4.2.1 Transfer or disposal of non-exempted capital assets

In terms of Regulation 5(1)(b) a municipal Council may transfer or dispose of a non-exempted capital asset only after-

a) the accounting officer has in terms of regulation 6 conducted a public participation* process to facilitate the determinations a municipal council must make in terms of Section 14(2)(a) and (b) of the Act; and
b) the municipal council-

i) has made determinations required by section 14(2) (a) and (b)* and

ii) has, as a consequence of those determinations approved in principle that the capital asset may be transferred or disposed of.

*Only applicable to high value properties, i.e. in excess of R50M

6.2.4.2.2 Consideration of proposals to transfer or dispose of non-exempted capital assets

In terms of Regulation 7 the municipal council must, when considering any proposed transfer or disposal of a non-exempted capital asset in terms of regulation 5(1)(b)(i) and (ii), take into account—

(a) whether the capital asset may be required for the municipality's own use at a later date;

(b) the expected loss or gain that is expected to result from the proposed transfer or disposal;

(c) the extent to which any compensation to be received in respect of the proposed transfer or disposal will result in a significant economic or financial cost or benefit to the municipality;

(d) the risks and rewards associated with the operation or control of the capital asset that is to be transferred or disposed of in relation to the municipality's interests;

(e) the effect that the proposed transfer or disposal will have on the credit rating of the municipality, its ability to raise long-term or short-term borrowings in the future and its financial position and cash flow;

(f) any limitations or conditions attached to the capital asset or the transfer or disposal of the asset, and the consequences of any potential non-compliance with those conditions;

(g) the estimated cost of the proposed transfer or disposal;

(h) the transfer of any liabilities and reserve funds associated with the capital asset;

(i) any comments or representations on the proposed transfer or disposal received from the local community and other interested persons; (if applicable)

(j) any written views and recommendations on the proposed transfer or disposal by the National Treasury and the relevant provincial treasury; (if applicable)

(k) the interests of any affected organ of state, the municipality's own strategic, legal and economic interests and the interests of the local community; and

(l) compliance with the legislative regime applicable to the proposed transfer or disposal.

6.2.4.2.3 Conditional approval of transfer or disposal of non-exempted capital assets

Further, in terms of Regulation 11, an **approval in principle** in terms of regulation 5(1)(b)(ii) or 8(1)(b)(ii) that a non-exempted capital asset may be transferred or disposed of, **may be given subject to any conditions**, including conditions specifying—

(a) the way in which the capital asset is to be sold or disposed of;

(b) a floor price or minimum compensation for the capital asset;

(c) whether the capital asset may be transferred or disposed of for less than its fair market value, in which case the municipal council must first consider the criteria set out in regulation 13(2); and

(d) a framework within which direct negotiations for the transfer or disposal of the capital asset must be conducted with another person, if transfer or disposal is subject to direct negotiations.

6.2.5.2.4 Transfer or disposal of non-exempted capital assets to be in accordance with disposal management system

In terms of Regulation 12(1); if approval has been given in terms of regulation 5(1)(b)(ii) that a non-exempted capital asset may be transferred or disposed of, the relevant municipality may transfer or dispose of the asset only in accordance with its disposal management system, irrespective of—

(a) the value of the capital asset; or

(b) whether the capital asset is to be transferred to a private sector party or an organ of state.

6.2.5.2.5 Transfer agreements

In terms of Regulation 17, a municipality may transfer assets approved for transfer to a private sector party or organ of state, only by way of a written

transfer agreement concluded between the transferring municipality and the receiving private sector party or organ of state.

A transfer agreement must set out the terms and conditions of the transfer, including, as a minimum—

(a) a sufficient description of the capital asset being transferred in order to identify the asset;

(b) particulars of any subsidiary assets that are transferred with the capital asset;

(c) particulars of any liabilities transferred with the asset;

(d) the amount of compensation payable to the municipality or municipal entity for the transfer of the asset or assets, and the terms and conditions of payment; and

(e) the effective date from which the risk and accountability for the asset or assets is transferred to the receiving private sector party or organ of state.

6.2.5.6 Policy on the management of Council-owned property

6.2.5.6.1 General principles

In terms of paragraph 7.2.1, unless otherwise provided for in the policy, the disposal of Viable Immovable property shall be effected-

a) by means of a process of public competition; and

b) at market value except when the public interest or the plight of the poor demands otherwise.

6.2.5.6.2 Methods of disposal

In terms of paragraph 9 the type of tender may vary, depending on the nature of the transaction. The following options may be considered:

a) outright tender,eg residential erven;

b) Call for proposals, e.g social care erven.

6.2.5.6.4 Non-viable immovable property

In terms of par. 9.2.1, in respect of Non-viable Immovable Property which can be utilised by one adjacent land owner, a Property Transaction(s) may be approved without any competitive process having been followed, including in response to an unsolicited application, on the basis that no purpose would be served by a competitive process but subject to the determination of the fair market value and public notice of the intent to dispose of the property.

6.2.5.4 Fair market value

In terms of par.2 immovable property may be disposed of only at market related prices, except when the plight of the poor or the public intend demands otherwise.

6.3 Financial Implications

The financial implications will only be available after the valuation report has been obtained indicating the fair market value of the property.

6.4 Legal Implications

See par. 6.2.5 above.

6.5 Staff Implications

No additional staff implications

6.6 Previous / Relevant Council Resolutions

None.

6.7 Risk Implications

Risks are addressed through the content of the report.

6.8 Comments from Senior Management

No comments have been requested yet.

ANNEXURES: **Appendix 1: Letter from Greater Stellenbosch Trust**
Appendix 2: Draft Site Development Plan Kayamandi Northern Extension

FOR FURTHER DETAILS CONTACT:

NAME	**Yolande van den Berg**
POSITION	***Head: Contract Management***
DIRECTORATE	***Corporate Services***
CONTACT NUMBERS	***021-808 8073***
E-MAIL ADDRESS	Yolande.vandenberg@stellenbosch.gov.za
REPORT DATE	***2025/10/08***

APPENDIX 1

GST GREATER STELLENBOSCH TRUST

13 May 2025

Ms Geraldine Mettler
Municipal Manager
Stellenbosch Municipality

Application for the primary school site in Kayamandi Northern Extension

Dear Ms Mettler,

The Greater Stellenbosch Trust (GST) and Apex have previously commented on and supported the Kayamandi Northern Extension of the Municipality. We now ask the Municipality to allow the GST to purchase, rent, or use the site allocated for a primary school. We want to build a new primary school without delay. The need for it is urgent and will bring immediate and significant relief to many families if the Council approves it in principle, subject to conditions of due process.

Request

The GST, supported by Apex, therefore ask the Council to sell, lease, or, if they see fit, grant the land proposed for a primary school in the Kayamandi Northern Extension to the GST, specifically to build a primary school from Grades R to 7, either immediately or for completion in 2026.

We request that the Council do so on the condition that the Kayamandi Northern Extension and the use of the intended site for the primary school are eventually approved following a public participation process and due consideration of comments by the public and interested parties, particularly the Western Cape Education Department.

We request the Council's in-principle and conditional approval of our request because the need to proceed is urgent. The approval will enable us to engage with officials who have been delegated the authority to do so.

We acknowledge that the conditional approval will not grant us any special consideration if, during the public participation process or at any other time, another party or the WECD expresses interest in acquiring the land to build a primary school and provide quality education to the community. We have no other interest beyond the public interest in this matter and will support any institution that is willing and able to serve this need.

Motivation

If the Council approve to make land in the Kayamandi Northern Extension available for a new primary school, it would:

- Support the response to an urgent need, and in effect, a crisis in primary school education in Kayamandi.
- Enable an early momentum to establish a well-functioning neighbourhood in Kayamandi North.

- Support continued excellence in education in Kayamandi. Both Vision Africa Primary School and Apex Secondary School have outstanding academic results and a potentially significant social impact. Apex's model for secondary schools, particularly, is a viable model for many future schools in South Africa.

- Encourage significant interest from institutions that want to establish an educational hub, which could include a science lab for learners, a coding academy, and other facilities that can be shared among various schools.

Additional context

The shortfall in accommodating all learners in Stellenbosch is well documented. The Western Cape Department of Education supports our efforts to mitigate this.

In this context, Apex and the GST signed a Memorandum of Understanding in 2022. In 2024, Apex opened the new Apex Secondary School in Kayamandi. The intended new primary school will be a feeder school to Apex and other secondary schools in Stellenbosch.

Previously, in 2015, the GST established Vision Afrika Primary School as an urgent solution in Kayamandi for parents, pupils, and the Department of Education. At the time, 800 primary school learners had to find places in other schools, which involved long bus journeys and other disruptions. While responding to the crisis, we sought an urgent education partner. After extensive exploration, we partnered with Apex because we share a similar approach to achieving a viable solution for excellent education in underserved communities.

Vision Afrika is a small centre of excellence. However, the school is confined to the foundation phase because we have no extra space for an entire primary school with potentially 1,000 learners, where we are located in Mashitandani Street in Kayamandi. We will also have to relocate the existing school to another site for at least a year if we try to extend the school.

Apex initially made an offer to purchase Portion 37 of Farm 183 and Portion 8 of Farm 81, located on the border of Kayamandi. However, the owner sold Portion 8 of Farm 81 to a developer, and Apex could only buy Portion 37 of Farm 183. This property is suitable for a secondary school, but it is too small to accommodate both secondary and primary schools. To address the urgent need in Kayamandi, Vision Afrika and Apex have made arrangements to extend primary school classes to Grade 4 and Grade 5, utilising the Anglican Church and part of the new Apex Secondary School for these classes.

However, in Kayamandi, we have no further room to improvise with extra space - we must secure land to build a new school.

We had informed Stellenbosch Municipality in 2023 of our interest in land zoned for education, specifically a primary school, in the planned northern extension of Kayamandi. We also told the Western Cape Education Department. The WCED informed us they do not have plans for new schools in Stellenbosch in the foreseeable future and would support our plan for the new primary school. We initially hoped to secure land for the school by April 2024; however, the process took longer than anticipated.

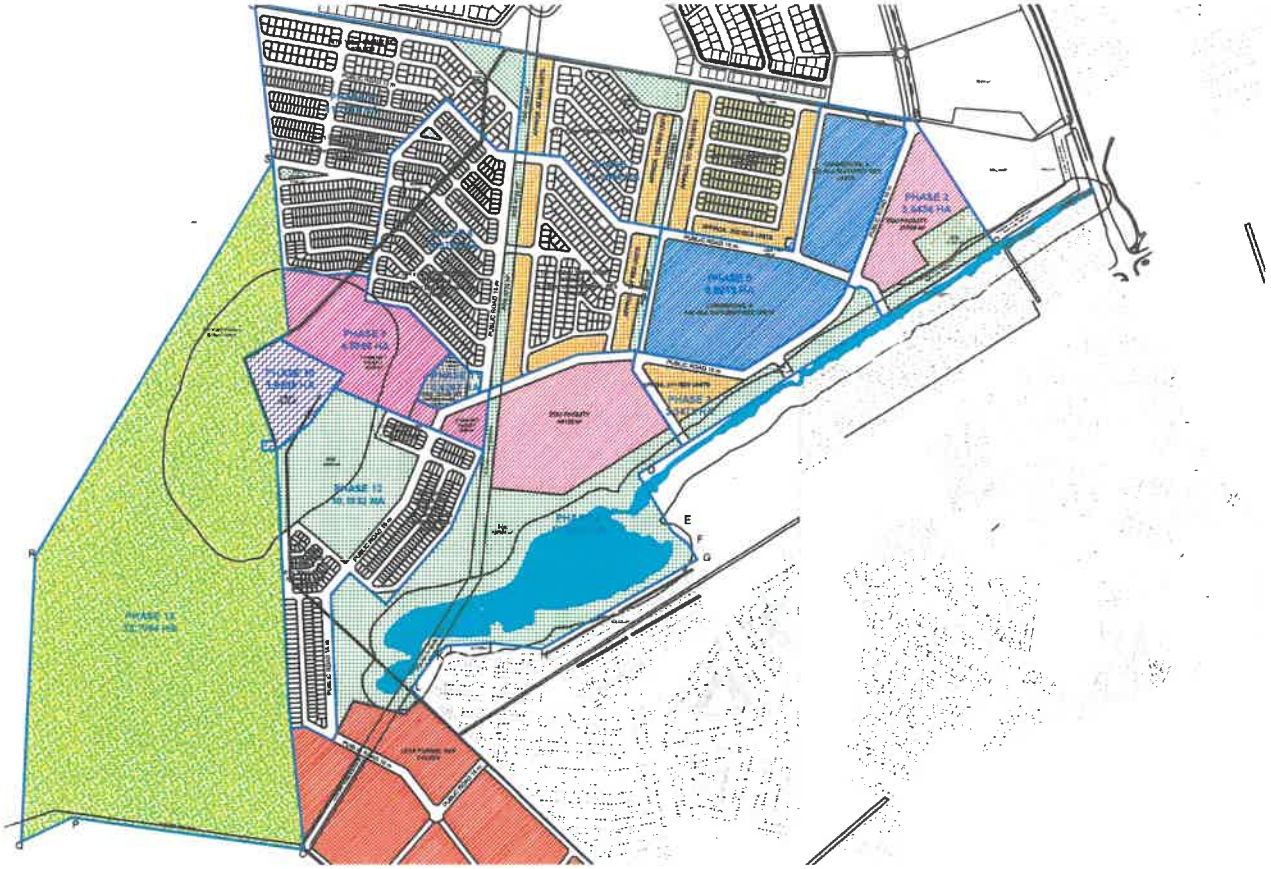
Parents and teachers share acute anxiety while we try to secure land for the new school. The closing date for learner applications to schools for 2026 was 15 April. In a district where most schools are significantly oversubscribed, we can only assure them that we will continue once we have confirmation that we will obtain the necessary land for the intended new school. They, and the WCED, count on us for quality education - even as we now teach in interim classes across different locations, our academic results are excellent. In the past year, our foundation phase maths results were 92.7%, compared to a provincial average of 53,7%.

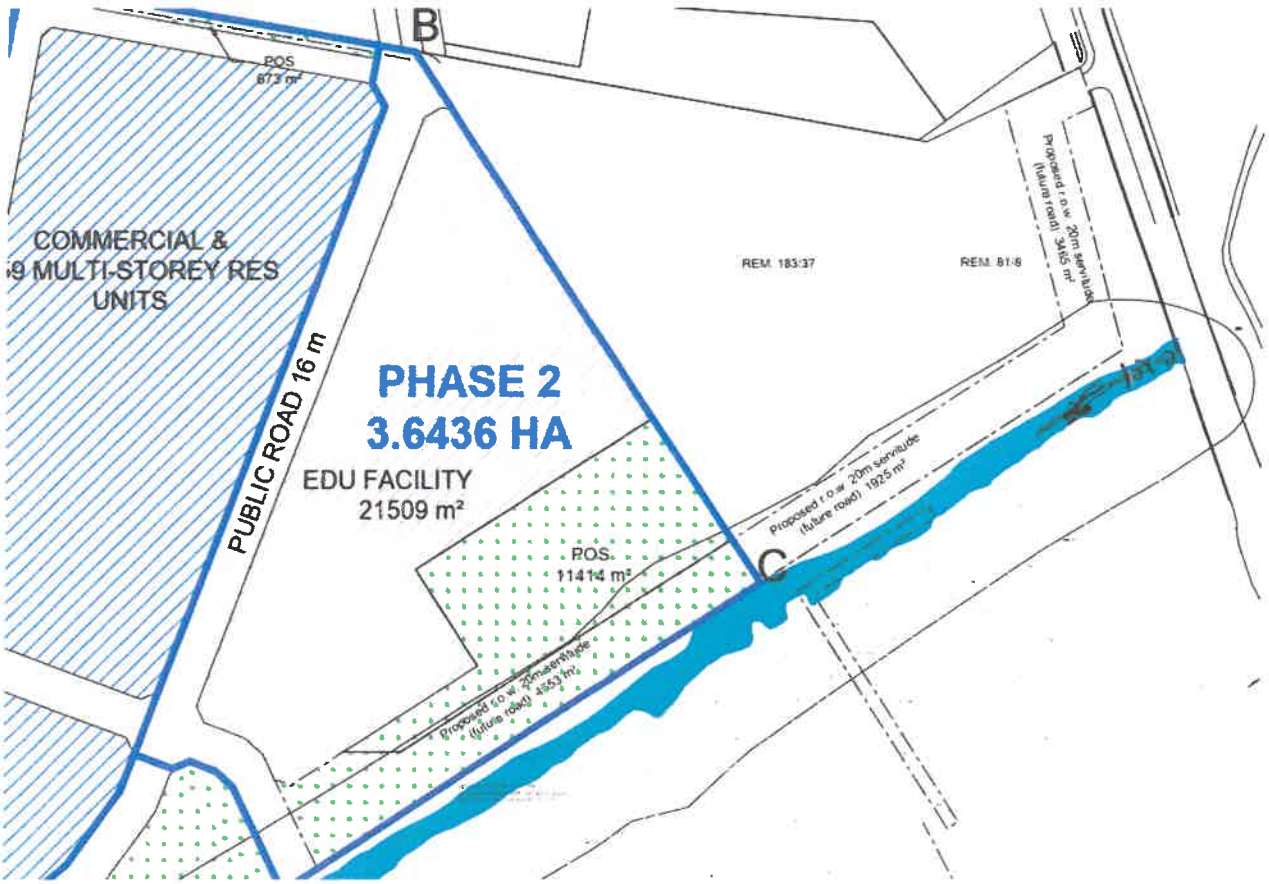
On the map of the Kayamandi Northern Extension, which we include, the erf 2733 (Phase 2), zoned for primary school education, abuts the site of Apex Secondary School, allowing for a controlled sharing of some extracurricular activities. The site size is 3.6436 hectares, which is sufficient for a primary school.

Yours sincerely,

Hannes van Zyl
Chairperson
Greater Stellenbosch Trust
hannesvzee@gmail.com
083 303 8544

Appendix 1: Kayamandi Northern Extension map





Appendix 2: Greater Stellenbosch Trust (GST)

GST community projects aim to bridge divides. Since 2001, many GST projects have evolved into independent entities, each with its specific aims and structures.

During the COVID pandemic, the GST partnered with Stellenbosch Municipality, Visit Stellenbosch, Stellenbosch University and other community organisations to provide coordinated community aid. It was a founding partner and the administrator of Stellenbosch Unite. Today, it has projects and partners in six provinces. As an implementing partner of the Presidential Social Employment Program, the GST has created over 2,000 work opportunities in recent years. We want South Africa's new generation to have stable institutions and opportunities that will enable them to participate in emerging science and technology, as well as global solutions.

Education

The GST established a preschool centre and after-school care programs in 2004 and a laboratory to train teachers in blended learning and technology in the classroom in 2015.

In 2016, we established Vision Afrika Primary School in response to a crisis in Kayamandi and developed it into a small centre of excellence.

In 2023, we agreed with Apex to establish a new primary and secondary school in Kayamandi. This school model uses digital technology to support learners in larger classes, typically with two or three teachers in a classroom. This model will evolve into a financially viable, academically excellent, and socially suitable institution for teaching in South Africa.

Health

During the COVID pandemic, we established temporary clinics. Nurses living in Kayamandi and working in hospitals in Cape Town then asked us to develop additional clinics in Kayamandi. We partnered with Unjani to establish clinics in Kayamandi, while also creating a model that focuses on supporting community healthcare workers with technology to assist families and document healthcare gaps.

Our model supports healthcare and controls its cost with technology and management platforms that help community healthcare workers be more effective. Patients gain access to healthcare and personal data, enabling an I-Can-Function approach to health and improving community health.

The model creates sustainable income opportunities for community health workers.

Enterprise

Through SEED, a previous GST project, the GST has assisted over a thousand small businesses in the Western Cape since 2006. It also developed the Township and Village model to support small businesses in the tourism sector.

The Arts

Amazink is a renowned eatery and cultural space for theatre, music and community events. It supports emerging artists in various branches of the arts.

Civic support

The GST houses the server that provides digital access to most homes, businesses, schools and institutions in Kayamandi.

It supports Stellenbosch Municipality's Adam Tas Corridor and its effort to provide a viable, friendly neighbourhood in the Kayamandi North Extension.

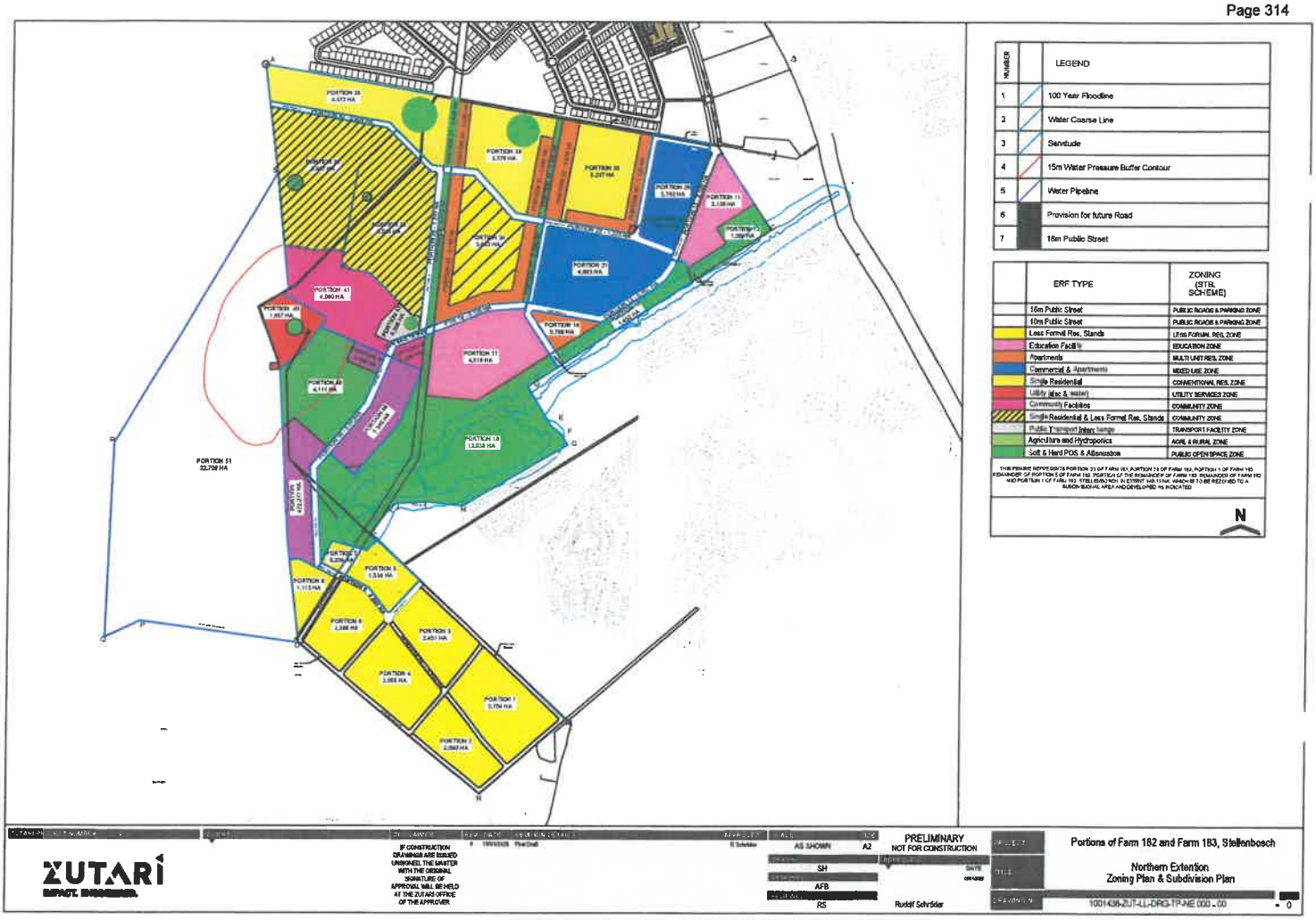
General

The Trust meets the requirements for good governance and complies with relevant legal and other requirements; it is registered with the Master of the Court (IT23/2002), the Department of Social Development (NPO number 019-824) and the Receiver of Revenue under sections 30 and 18a. Its governance is people-oriented and rights-based.

The trustees are Ilzemarie Knoetze, a lawyer; Charles Ndlebe, a community leader and longtime principal of Makapula High School in Kayamandi; Jan Viviers, a senior partner at ENSafrica; Leslie van Rooi, Director of social impact and transformation at Stellenbosch University; Jan Schliemann, a lawyer; and Hannes van Zyl, chairperson.

Critical staff members include Jean Pierre du Plessis, Programme Manager (LLM Stellenbosch); Lizelle Vos, CFO (Honours B.Com); Dr Puni Mamdoo, Healthcare Lead(MDChB); Leana Kotze, Enterprise Lead (LLB); Kay Mhlakaza, Amazink Lead, BTech in Hospitality; and many other programme leaders.

APPENDIX 2


PORTION 31
33,708 HA
N
LEGEND
100 Year Floodline
Water Coarse Line
Servitude
15m Water Pressure Buffer Contour
Water Pipeline
Provision for future Road
16m Public Street
ERF TYPE
ZONING (STBL SCHEME)
16m Public Street
PUBLIC ROADS & PARKING ZONE
10m Public Street
Less Formal Res. Stands
LESS FORMAL RES. ZONE
Education Facility
EDUCATION ZONE
Apartments
MULTI UNIT RES. ZONE
Commercial & Apartments
MIXED USE ZONE
Single Residential
CONVENTIONAL RES. ZONE
Utility (misc & water)
UTILITY SERVICES ZONE
Community Facilities
COMMUNITY ZONE
Single Residential & Less Formal Res. Stands
COMMUNITY ZONE
Public Transport Interchange
TRANSPORT FACILITY ZONE
Agriculture and Hydroponics
AGRI. & RURAL ZONE
Soft & Hard POS & Attenuation
PUBLIC OPEN SPACE ZONE
ZUTARI
IMPACT. ENGINEERS.
IF CONSTRUCTION DRAWINGS ARE ISSUED UNSIGNED, THE MASTER WITH THE ORIGINAL SIGNATURE OF APPROVAL WILL BE HELD AT THE ZUTARI OFFICE OF THE APPROVER
AS SHOWN
A2
SH
AFB
RS
PRELIMINARY
NOT FOR CONSTRUCTION
Rudolf Schröder
Portions of Farm 182 and Farm 183, Stellenbosch
Northern Extension
Zoning Plan & Subdivision Plan
1001436-ZUT-LL-DRG-TPNE 000 - 00

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK

MUNICIPALITY • UMASIPALA • MUNISIPALITEIT

ANNEXURE T

STELLENBOSCH
STELLENBOSCH • PNIEL • FRANSCHHOEK
MUNISIPALITEIT • UMASIPALA • MUNICIPALITY

To	:	**Manager: Land Use Planning**
From	:	**Manager Spatial Planning**
Reference	:	**Spatial Planning - Spatial Planning Assessment Memo**
Date	:	**07 April 2026**
Land Use/TPAMS no	:	**LU/16553 (TP592/2023)**

Dear Colleagues,

The Spatial Planning Office has conducted a comprehensive assessment of the above application against the Municipal Spatial Development Framework (MSDF, 2023), relevant spatial policies, and the requirements of Sections 38 and 65 of the Stellenbosch Land Use Planning By-law (2023).

This memorandum refers to the following application:

Application Reference:	LU/16553 (TP592/2023)
Applicant:	Zutari (Pty) Ltd (Stellenbosch Municipality)
Property:	Various Portions of Farm 182 and 183, Stellenbosch
Application/s Description:	– Subdivision of land that is not exempted in terms of section 24, including registration of a servitude or lease agreement. – Consolidation of land that is not exempted in terms of section 24. – Rezoning of land. – As reflected in attached subdivision and zoning plan herewith attached in **Appendix 1**
Preliminary Assessment Additional Requirements:	– None.

1. BACKGROUND AND CONTEXT

The Northern Extension project comprises various portions of Farm 182 and 183 in Stellenbosch Town, north of Kayamandi and south of the newly established Newinbosch residential development. The northern portion of the proposed site gains access off the R304, while the southern portion gains access from Kayamandi settlement area. A railway line runs parallel to the R304 to the western edge of the study area.

The site is positioned within an established urban environment characterised by a dense settlement pattern comprising predominantly of medium- to high-density residential neighbourhoods including Cloetesville, Mount Simon and Welgevonden Estates, as well as low-income and less formal neighbourhoods such as Kayamandi. The surrounding area is complemented by community, educational, and small-scale commercial facilities.

Farm 182 comprises of Remainder of Farm 182 and Portion 1 of Farm 182, measuring 7.31 ha and 1.47 ha, respectively, both portions are informal residential settlements. Remainder of Farm

includes environmentally sensitive features such as the Watergang Dam as well as a non-perennial river running into a section of the Plankenburg River. Farm 183 comprises Portion 23 of Farm 183 (20.58ha), Portion 36 of Farm 183 (2.87ha), Portion of Remainder of Farm 183 (57.82ha), Portion 1 of Farm 183 (48.78ha) and Remainder of Portion 5 of Farm 183 (48.78ha). The portions are mostly vacant and undeveloped and form part of the agrarian landscape; however, the southern portion of Remainder of Portion 5 of Farm 183 is invaded and is used as an informal settlement area (Azania).

A portion of the northern extension is within the Adam Tas Corridor Precinct 10 study area connected to the Baden Powell Drive-Adam Tas-R304 corridor. This corridor is designated as a Transit Orientated Development corridor (TOD) and is prioritised for mixed-use, high-density infill development.

The study area forms part of a visually sensitive cultural landscape (Devon Valley & Plankenburg graded landscape units) associated with its views towards mountains, valleys and across open, and cultivated fields as seen from the lower slopes along the R304, also identified as an Urban Scenic Route. The southern part of the study area falls within a medium-heritage-sensitive area due to its proximity to several heritage resources in Kayamandi.

The proposal involves the development of an integrated mixed-income human settlement development comprising ±5000 housing opportunities on land currently zoned Agricultural and Rural. To enable the development, the following land-use changes and approvals are required:

- Subdivision of the Remainder of Farm 183 into two Portions.
- Consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.
- Rezoning of the consolidated property from Agricultural and Rural Zone to Subdivisional Area Overlay Zone, to accommodate:
    - Conventional Residential Zone stands
    - Less Formal Residential Zone stands
    - Multi-unit Residential Zone stands
    - Public Open Space Zone stands
    - Transport Facility Zone stands
    - Mixed Use Zone stands
    - Education Zone stands
    - Agriculture and Rural Zone stands
    - Utility Zone stands
    - Community Zone stands
    - Public Roads and Parking
- Subdivision of the consolidated property into 45 portions.
- Approval of a phasing plan.

The proposed development requires the clearing of approximately 140 ha of actively farmed agricultural land to accommodate the Council-approved catalytic integrated human settlement development, offering a diverse range of housing, recreational, social, and

economic opportunities for the proposed new development area as well as the surrounding area. The majority of the proposed farm portions fall within the designated urban edge and have been designated for "Mixed Use Community and Residential Infill" area in the MSDF, with a small portion designated as "Green Areas Retained". The proposed development falls within the Priority Human Settlements and Housing Development Area (PHSHDA), and the restructuring zones of both national and provincial human settlements. In addition, the development forms part of the Precinct 10 of the Adam Tas Corridor (ATC) and is seen as the settlement restructuring element forming part of the urban intensification corridor which links Kayamandi with Stellenbosch central along the R304.

The appropriateness of the development must be assessed in relation to the scale, form and compatibility, spatial alignment, agricultural and vegetation loss, public benefit, heritage impacts, policy compliance and proposed mitigation measures.

2. POLICY ALIGNMENT ASSESSMENT

2.1. MSDF Compliance

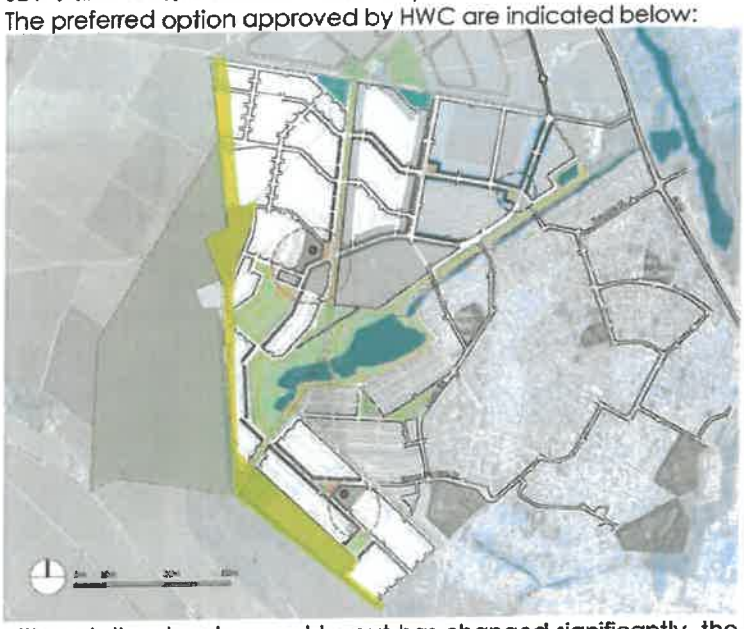
The Stellenbosch Municipal Spatial Development Framework (MSDF) has designated the proposed development area as "Mixed Used Community Residential Infill Area" as well as "Green Areas Retained". The "Mixed-Use Community Residential Infill Area" allows for mixed use infill densification within existing urban environments to support compact development, expand residential opportunities, maximise convenience and curb urban sprawl. Stellenbosch Municipality faces a high housing demand with over 22 000 households in the medium to low-income brackets. To respond to the demand and ensure well located land, the MSDF's designation corresponds with the Stellenbosch Municipality Housing Pipeline for the MTREF 2023–2026 period which was adopted as part of the MSDF in June 2023.

The MSDF principles are a critical planning anchor for the SM to achieve its strategic objectives:

MSDF Principles	Proposal Compliance
1. Preservation of Agriculture, Water, Biodiversity resources	– The site is currently not used for agriculture. – It falls within the urban edge and is suited for non-agricultural urban-supportive land uses. – The Basic Assessment Report (BAR) identifies remnants of wild olive in the drainage line that leads into the existing dam, however it is degraded and infested with invasive alien vegetation. – The BAR indicated only one no-go area, which includes the remnant wild olive trees and the associated habitat and watercourse. – The development proposal identifies these areas for inclusion into the public open space network (POS) within portion 42 (±4.11ha), portion 18 (±13.04ha), portion 15 (1.45ha), portion 12 (1,15ha), and other POS portions (±1.82ha). A total of ±21.57ha of the developable site will be restored and rehabilitated into a POS network. – The mixed-use development proposal considered the flood lines and watercourses, and no urban related uses are proposed within these areas.

	– The BAR also found that there are low to moderate risks to the watercourse for the proposed activities, however the development needs to adhere to cogent, well-conceived and ecologically sensitive construction plans with their mitigation measures are adhered to. – The proposed development retains the high potential agricultural land on the western side of the ridgeline. Portion 45 on the subdivision plan encompasses ±32.71 ha and retains conventional agricultural uses with the possibility of hydroponic cultivation. – The proposed phase 1 consisting of portions 1 to 6, which has been designated as green areas retained in the MSDF have been indicated as holding no agricultural value and has limited environmental significance by the specialist studies done as part of the BAR. The site has also been transformed and houses more than 1300 households in an informal settlement. The trade-off for the green areas retained as indicated in the MSDF is contextually more appropriate on Portion 45 as it will maintain the urban-rural buffer. – The preservation of portion 45 for conventional agricultural uses is a critical element for creating a transitional buffer between Stellenbosch town and the surrounding rural/agricultural land. Although the development proposal notes an agricultural facility / training facility in both the HIA and BAR, the final subdivision plan have removed the facility from the development concept.
2. Heritage and Scenic Landscape Protection	– The HIA found no heritage resources intrinsic to the site or within the immediate vicinity of the area. – The site falls within the Devon Valley (western side) and Plankenburg Valley (eastern side) landscape units. – The Devon Valley unit is classified as a Grade IIIB and the proposed Agricultural portion (portion 45) in extent of ±32.71ha will have minimal impact and retain this rural landscape. – The Plankenburg Valley landscape unit is classified as a Grade IIIB, however due to the urban infill development currently being constructed, and which is planned for through the Adam Tas Local Spatial Development Framework, Development Guidelines, and Overlay Zone the recommendation is to reclassify the grading to a Grade IIIC. The HIA further concludes that the impact of the proposed development can be regarded as moderate reducing to medium to low with mitigation. The ROD further notes conditions to be adhered to i.e.; – Guidelines to be developed which enforce height restrictions as per the indicators (maximum of 5 storeys) on the lower eastern portion. The guidelines need to address the massing of buildings to avoid over-scaled monolithic structures and submit it to the Heritage Section, Stellenbosch Municipality for approval. – A landscape framework plan addressing at least tree planting and fencing prepared by a suitably qualified landscape architect and submitted to Stellenbosch Municipality for approval is also required. – Development of structures within the eastern portion of the site which may protrude above the ridgeline, and/or development of structures on the western portion of the site (west of the ridgeline) must submit site development plans. The SDPs must indicate

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	building placement, massing and landscaping and should include 3D modelling, where appropriate. – The area indicated in yellow in the image below requires detailed SDPs which should be approved by the Heritage Section, Stellenbosch Municipality. – Proposals for new public/community facilities will require detailed SDP's and all new houses within the yellow area. – The preferred option approved by HWC are indicated below:  – Although the development layout has changed significantly, the requirement of the guidelines remains applicable for the eastern portion of the site.
3. Optimal Land Use and Settlement Hierarchy	– The council-approved urban edge explicitly encourages strategic infill development and the provision of essential community facilities in accessible locations. The proposed development is contained within the urban edge, supporting urban development containment and protection of high value agricultural land outside the urban edge. – A portion of the proposed development area is within Precinct 10 of the Adam Tas Corridor LSDF, a development catalytic initiative by the municipality. Precinct 10 functions as the northern gateway into Stellenbosch, predominantly residential with supporting commercial and retail uses. It is envisioned as a low- to medium-density residential area with varied typologies and building heights ranging from 2 to 4 storeys, with the greatest heights along the R304. – The proposed development is located adjacent to three established residential areas, Newinbosch to the north, Kayamandi to the south and Cloetesville to the east. The proposal optimises underutilised urban land that is currently under pressure from invasion. – Stellenbosch, Kayamandi, Cloetesville are identified as key priority development areas. The proposed development supports the development vision for the area and the additional rights will create a socially mixed urban environment where well-located, affordable housing can be integrated effectively.

	– The proposed development reinforces compact growth, settlement integration, and densification in well located areas; close to jobs, social amenities and transport nodes. – The proposed development introduces residential typologies compatible with the surrounding urban form and maintains the existing role and function of the town. – The proposed development prevents urban sprawl and aligns with the MSDF directive to utilise land within the urban footprint.
4. Community development	- Introduces well-located housing opportunities that benefits low- to medium-income households which are currently underserved. - The proposed development adheres to the inclusionary housing/zoning policy in providing affordable housing to households which are currently underserved. - Provides mixed-use components that enhance inclusion, social cohesion, and shared public spaces and will integrate well with existing areas. - Lies within the catchment of schools, health facilities, recreation spaces, and employment opportunities. - Improves public-transport accessibility and supports NMT-oriented living. - Potential to enhance safety of informal dwellers through formalised and well-planned housing development while also improving street frontage and creating passive surveillance.
5. Improved mobility and access	– Located along the Baden Powell-Adam Tas-R304 Transit Orientated Development Corridor. – High-density mixed residential uses support increased public transport viability. – Within walking distance of taxi ranks, existing rail station, future rail station, and employment opportunities. – Will require intersection upgrades, NMT enhancements, and improved public-transport integration. – Supports MSDF principles promoting walkable, transit-supported neighbourhoods. In considering these aspects, the proposed development currently has access constraints for the development (one access point) via Newinbosch and shows limited integrated with the existing settlement (Kayamandi). Further access points will need to be considered as part of the further application phases.
6. Focus development on critical lead projects	- Although partially greenfield, the project aligns with major municipal investment priorities. - It reinforces the CEF's 10-year infrastructure strategy. - Supports the MSDF, IDP, Housing Pipeline, and ATC visions. - Strengthens long-term infrastructure efficiency by developing within an existing serviced area. - Contributes to spatial transformation and delivery of catalytic, inclusive housing opportunities.

2.2. By-law Compliance

The subject property is currently zoned Agriculture and Rural Zone, which permit primary agricultural activities and low-intensity residential uses. High-density residential development is neither a primary nor a consented land use within these zones. Accordingly, the proposed

integrated human settlement project cannot be accommodated under the current zoning rights. To enable the development while ensuring the continued ecological functioning of the Watergang Dam and associated drainage lines linking to the Plankenburg River corridor, the application proposes the rezoning of the properties to a Subdivisional Area Overlay Zone. This overlay will allow the creation of underlying zones for a well-integrated human settlement:

- Conventional Residential Zone stands
- Less Formal Residential Zone stands
- Multi-unit Residential Zone stands
- Public Open Space Zone stands
- Transport Facility Zone stands
- Mixed Use Zone stands
- Education Zone stands
- Agriculture and Rural Zone stands
- Utility Zone stands
- Community Zone stands
- Public Roads and Parking

The estimated number of households in Stellenbosch is projected to increase from 37,126 in 2024 to 42,136 in 2030. Kayamandi is expected to continue to be a key area of household growth, which can be seen in the proliferation of backyard dwellings and informal settlement growth (about 10 674 informal structures) on its boundaries. There are an estimated 10674 informal structures in Stellenbosch with about 95% identified in Kayamandi with those in Watergang Informal Settlement (Azania) at a density of 71ha-121ha per density. Furthermore, backyard dwelling patterns show a high concentration in Kayamandi as well. This highlights the ongoing pressure and need for well-located (close to jobs, transport and social networks) affordable housing opportunities. The current rate of formal housing delivery remains substantially below demand, resulting in widening affordability gaps and rising pressure on urban land. In response, Kayamandi is identified as a priority development area for in-situ upgrading and the municipality has endorsed several strategic, catalytic initiatives, including:

- The Inclusionary Zoning / Housing Policy;
- The Adam Tas Corridor (ATC) as a high-density, mixed-use intensification area;
- The Restructuring Zones;
- Priority catalytic human-settlement investments identified in the Housing Pipeline.

These initiatives collectively promote the delivery of well-located, mixed-income housing within established urban areas, aligned with infrastructure availability and spatial-transformation objectives. The proposed development directly advances this mandate by providing well-located, affordable housing targeted at the low- to medium-income segment. Its location within an established residential node, with existing blue, green, and red infrastructure, makes the proposal both operationally efficient and strategically justified.

When assessed against the principles of the MSDF and the criteria listed in Section 65 of the Stellenbosch Municipal Planning By-law (2023), which include desirability, need, compatibility, and spatial alignment, the proposal demonstrates strong compliance and clear public benefit. The proposal demonstrates:

- Clear need, given the documented housing backlog and affordability constraints;
- High public benefit, through the delivery of inclusive, well-located social housing;
- Compatibility with surrounding medium- to high-density settlement patterns;
- Alignment with strategic spatial-planning instruments (MSDF, CEF, ATC, Housing Pipeline);
- Efficient use of existing bulk services and infrastructure; and
- Support for compact, accessible, and integrated settlement development.

2.3. Policy Frameworks Compliance

At national level, the Spatial Planning and Land Use Management Act (SPLUMA) is complied with, as the proposal introduces an inclusive housing typology; close to existing infrastructure and services, removes pressure from high-value agricultural land, reduces urban sprawl, optimises existing bulk infrastructure targeted for upgrades, increases ecological and agricultural resilience, which further aligns with the IDP, MSDF, EMF, CEF and settlement hierarchy.

Provincially, the Western Cape Biodiversity Plan (WCBP) directs municipalities to safeguard environmental sensitive land and assets, and channel urban development into appropriate serviced areas; the proposal is partially complaint as it reinforces the critically endangered resources contained in Remainder of Portion 182 and Portion 1 of Farm 183 as it will be preserved and integrated into the development as public open spaces, with proposed development above the 1:100 flood line. Only low impact developments should be allowed the required 32m buffer zone from a watercourse, ensuring strict mitigation, rehabilitation, buffer establishment and compliance with specialist recommendations in the EIA.

The Stellenbosch Heritage Inventory identifies the site as being part of the Devon Valley landscape unit. This landscape contains notable scenic and cultural-historical qualities (the western portion), as well an already transformed area (to the east). The most prominent conservation worthy aspects of the unit are the expansive views overlooking the valley towards Simonsberg from the R304 urban scenic route creating an urban-rural visual continuum. The proposed developments sites, however, hold limited intrinsic heritage or scenic sensitivity. The proposed two-four storey development as recommended in the VIA will be compatible with the area's existing and emerging urban character, and its scale and massing will not result in significant visual intrusion within the landscape unit.

The Capital Expenditure Framework (CEF) identifies Stellenbosch as a priority node for municipal investment due to its role as:

- a functioning urban area and local service centre,
- a developing mixed-use environment with community facilities,
- a location experiencing targeted densification, and
- an area where bulk infrastructure capacity is available.

The proposed development aligns with the CEF by expanding residential opportunities as well as public facilities within a growth node, complementing other planned municipal

investments, and supporting long-term financial sustainability through efficient use of existing infrastructure networks.

3. SPATIAL PLANNING RECOMMENDATION

Based on the comprehensive spatial assessment outlined above, the Spatial Planning Section **partially supports** the proposed subdivision, consolidation, rezoning and approval of phasing plan of various portions of Farm 182 and 183 to facilitate an integrated mixed-use human settlement development. The proposal demonstrates substantial alignment with municipal, provincial, and national spatial-planning principles; however, certain components particularly relating to access, land use distribution and intensification require refinement to ensure full compliance with the Municipal Spatial Development Framework (MSDF) and the Stellenbosch Land Use Planning By-law (2023).

Key reasons for support:

- The property is located within the approved urban edge, where the MSDF promotes compact settlement, strategic infill, and higher-density residential opportunities along major mobility routes to curb sprawl and improve land-use efficiency.
- Portion 45 will remain as Agricultural and Rural Zone, retaining the integrity of the Grade IIIB landscape unit as approved in the Stellenbosch Heritage Inventory and incorporated in the MSDF and adopted by Heritage Western Cape.
- Within the local contextual factors i.e. urban infill and catalytic development, development guidelines and landscaping framework requirements have been identified as an appropriate mechanism to mitigate the visual impact of the entire proposed development.
- Massing, higher densities including proposed buildings exceeding two or more storeys, are contextually more appropriate in the lower eastern portions and accordingly the proposal and location for community facilities should be located and grouped in this section of the development. The proposals for locating higher order urban-related uses on these visually sensitive slopes are not supported and therefor the only phases which adhere to the heritage indicators are phase 1, 2, and 10. The rest of the development needs to be assessed based on the development guidelines and landscape framework to ascertain the compliance with the Heritage Indicators and accordingly based on the lack of mitigating measures, the rest of the phases (phase 2 – 12, excluding phase 10) should first be assessed in more detailed in later application processes.
- The site is located along Bird Street/R304, an MSDF-identified Activity Route with strong vehicular, public-transport, and NMT connectivity, supporting intensification in proximity to transport corridors.
- The eastern portion of the properties form part of the council approved ATC Precinct 10, envisaged for high-density, mixed-use intensification, positioning the site within an emerging, well-connected, mixed-use urban district.
- The proposed residential typologies (two to four storeys) are compatible with the adjacent medium- to high-density neighbourhoods of Kayamandi, Cloetesville, and

Mount Simon. The development supports the functional and spatial reasoning of existing and future land-use patterns.

- Stellenbosch Municipality faces severe housing shortages particularly for low- to middle-income households. The proposed development provides well-located mixed use opportunities that will broaden housing typologies and tenure options, support settlement restructuring, address housing needs and enhance residential opportunities in proximity to jobs and services.
- The proposal aligns with the spatial directives of the MSDF, SPLUMA, Western Cape PSDF, LUPA, EMF, CEF and the Municipal Housing Pipeline. It supports principles related to densification, inclusion, infrastructure optimisation, spatial justice, and compact urban form.
- While the site contains sensitive ecological assets (watercourses, CBA1 vegetation) on Portion 12, 15 and 18, which will be restored, rehabilitated and integrated into the public open space network with portions 42 and other POS portions, totalling ±21.57ha of the developable site. Further impact can be managed through other restoration and rehabilitation requirements and EIA-driven mitigation measures.
- Although the development requires the clearance of high potential agricultural land, the proposed development retains the ±32.71ha of high potential agricultural land on the western side of the ridgeline, Portion 45 with the possibility of hydroponic cultivation.
- Stellenbosch is a priority municipal investment node within the CEF, with ongoing and planned infrastructure upgrades. The development leverages existing bulk water, sewer, stormwater, and electricity networks, planned improvements to high-capacity infrastructure, strategic densification targets for Stellenbosch Town. The proposal supports long-term financial and operational sustainability through the efficient use of underutilised land and existing infrastructure.
- The Plankenburg River is currently severely polluted and regarded as a health risk, due to upstream pollution from the proposed development catchment. Portion 12, 15 and 18 of the proposed development will relocate the informal settlements along this river corridor, rehabilitate the natural water network and integrate it into the proposed development will rehabilitate this natural water system to form an integrated green network web.

4. CONCLUSION

Based on the motivation report and supporting documentation, the Spatial Planning Unit partially supports the subdivision, consolidation, rezoning and approval of phasing plan of various portions of Farm 182 and 183 to facilitate an integrated mixed-use human settlement development. The application demonstrates a clear need and desirability from a public-interest, spatial-planning, and environmental perspective, and shows broad compliance with the Municipal Spatial Development Framework, the Stellenbosch Land Use Planning By-law (2023), and the Stellenbosch Zoning Scheme.

However, access, land use distribution and intensification patterns require refinement through design modification, relocation processes, and adherence to specialist recommendations to ensure full compliance.

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Approval can only be recommended subject to the following conditions:

- The subdivision and site development plans for phases 2, 3, 4, and 12 should include construction environmental management plans, as per the mitigation measures identified in the BAR for each of the applicable portions as part of the subdivision plan application phases.
- The rehabilitation plan associated with the riverine corridor will require relocation of informal settlement structures; this should include a Temporary Relocation Area Plan (TRA) for residents living in the Watergang informal settlement.
- The applicant provides monitoring measures for the proposed sites to prevent further invasion such as fencing etc.
- The applicant must investigate and include indicative budget of ground improvement and foundation reinforcement requirements for different building typologies, and this should inform further phasing plans for the development.
- No development or infrastructure may be placed within the 32 m watercourse buffer, except where approved by environmental authorities and supported by specialist studies mitigation measures.
- Development Guidelines in line with the Heritage Indicators specified in the ROD from Heritage Western Cape should be developed and submitted to the Heritage Section, Stellenbosch Municipality for approval prior to any further applications are considered.
- The landscape framework plan in line with the Heritage Indicators specified in the ROD from Heritage Western Cape should be developed and submitted to the Heritage Section, Stellenbosch Municipality for approval prior to any further applications are considered.
- Detailed Site Development Plans (including 3D modelling), landscaping plans for each of the applicable portions as highlighted in the ROD should be submitted for approval.
- Phase 1 adheres to the proposed height restriction of one-storey residential in the ROD and can be supported.
- All required traffic-calming and management measures, must be integrated into the internal layout and approved by the municipal traffic engineering department.
- The required upgrades to intersections, pedestrian crossings, or road infrastructure must be implemented prior to occupation by residents.

This approval is in part and recommendation pertains to:

- Subdivision of the Remainder of Farm 183 into two Portions.
- Consolidation of Portion 23 of Farm 183, Portion 36 of Farm 183, Remainder of Farm 182, Portion of the Remainder of Farm 183, Portion 1 of Farm 182, Portion 1 of Farm 183, and the Remainder of Portion 5 of Farm 183 into one property.
- Rezoning of the consolidated property from Agricultural and Rural Zone to Subdivisional Area Overlay Zone, to accommodate:
    - Less Formal Residential Zone stands for Portion 1-8
    - Public Open Space Zone stands for Portions 12,15, and 18.
    - Education Zone stands for Portions 11 and 17
    - Agriculture and Rural Zone stands of Portion 45
    - Utility Zone stands for Portion 39
    - Public Road and Parking for Portion 9, 10, 13, 19 and 44

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- Approval of a phasing plan for Phase 1, Phase 2, Phase 4, Phase 10, Phase 12 and Phase 13.

Jeremy Benjamin (Senior Manager: Development Planning)
Date: 08/04/2026