



Adam Tas Corridor Development Guidelines

Stellenbosch Municipality

September 2021



FINAL DRAFT

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Introduction

1. Introduction

1.1. Background and Purpose

In January 2021 a project team was appointed to prepare a Local Spatial Development Framework (LSDF) for the Adam Tas Corridor (ATC) area in Stellenbosch. The ATC LSDF area stretches along the R310 and R44 roads along the foot of Papegaaiberg from the largely disused Cape Sawmills site in the west to Kayamandi and Cloetesville in the north, forming the western edge of the Stellenbosch town.

Given the extent of the ATC area and anticipated lengthy development period, the ATC LSDF is not as detailed in its recommendations as most LSDFs prepared by municipalities. Rather than providing detailed land use proposals, the ATC sets out the minimum necessary guidance – in terms of development principles, land use, urban structure, and infrastructure to enable meeting the project objectives while accommodating change in market conditions over the development period of the project.

Considerable attention is given to the applicable Municipal Land use Management System (LUMS) and landowner obligations associated with exercising development rights to be allocated following the LSDF process. In addition, guidelines have been developed to support the coherent and co-ordinated implementation of the ATC Framework which is expected to occur in a phased manner. The guidelines have also been to provide direction for landowners and decision-makers, both at the broader scale as well as at a precinct level. This report sets out these guidelines according to landscape, public realm, built environment, engineering and infrastructure components in a user-friendly manual format based on overarching framework objectives and precinct specific development intentions.

1.2. Vision and Goals

The working vision for the ATC area is follows:

- A **proactive intervention** to address needs in Stellenbosch, including fixing the mistakes of the past and enabling equitable access to urban opportunity for all citizens.
- An **integrated, inclusive environment** for living, work, and enjoyment.
- A **pro-active partnership** between the public, private, and community sectors in response to citizen needs and national, provincial, and municipal policy.
- A place which embodies and expands our **best knowledge and practise** of what constitutes good, equitable, and efficient settlement.
- A **“new town in town”** in Stellenbosch; integrating currently fragmented parts of the town, exploiting underutilized resources, and adopting non-motorized and public transport as the dominant form of access.

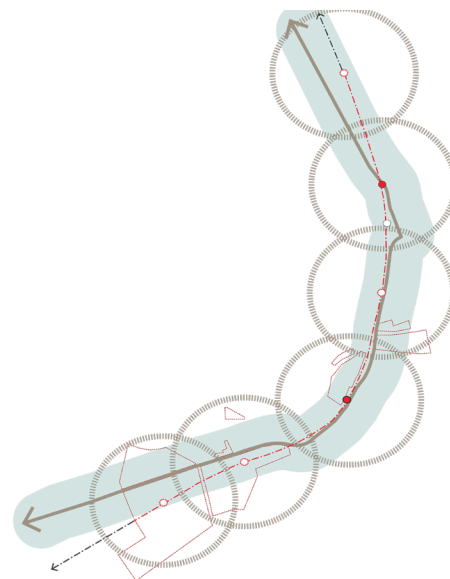


Figure 1. ATC Guiding development approach 1- 'Living the Line'

1.3. The ATC Development Framework

The Development Framework integrates the built, natural and transport systems of the development and is based on five key design ideas:

1. Separate but linked districts, focused on walkability, NMT and public transport, organized linearly along the rail line and supporting movement routes.
2. Connections or “stitching” of the new development with the old town through intersections and crossings (both NMT and vehicular) at selective points.
3. Districts based on unique character (including the re-use and celebration of historic places).
4. Connecting and exposing key places, including Papegaaiberg and the University (through a “university avenue”).
5. Commencing development at places of high opportunity (particularly the rail stations) and growing outwards from there.



Figure 2. ATC Guiding development approach 2- 'Stitching the Divide'

The overall development framework for the ATC is illustrated in Figure 6.

1.4. Development Objectives

The ATC LSDF is supported by a set of agreed **strategic outcomes** and **objectives** that range in focus from:

- enabling appropriate development form;
- promoting increased access to livelihood opportunities for ordinary citizens;
- promoting spatial integration;
- supporting financial sustainability;
- promoting active stakeholder partnerships; and
- providing a clear institutional process to enable speedy decision- making.

The development guidelines have been specifically drafted to support the realisation of the strategic outcomes for the ATC development. The strategic outcomes that have spatial implications and are applicable to the development guidelines are summarised below:

A VIBRANT, COMPACT AND EFFICIENT URBAN DISTRICT THAT IS RESPECTFUL OF THE ENVIRONMENT AND HISTORY

Ensure the ATC reflects urban qualities in development by:

- Facilitating compact mixed use development that prioritises NMT modes of access;
- Promoting convenient access to economic opportunities, public institutions, social facilities and public transport;
- Providing a range of housing opportunities to different housing markets;
- Providing a hierarchy of accessible public space, that accommodates a range of activities;
- Promoting clustering of public facilities that integrate with public space;
- Accommodating a range of spaces to support innovative, creative and entrepreneurial use

Appropriately manage development impacts on natural resources, while protecting, restoring and enhancing natural assets within the ATC by:

- Protecting environmental resources and contribute to the restoration of degraded environmental assets.
- Optimising the efficient use of land, existing structures and infrastructure as well as prioritise the application of environmentally responsible and resource- efficient servicing solutions

Ensure the ATC is contextually apt in urban form and respects and enables heritage and cultural development by:

- Recognising the special structure and form of the Stellenbosch town, current access limitation and the need to protect environmental resources, historic elements and precincts of value while accommodating further growth and expanded opportunity
- Retention of elements of the area which contributes to history and place character and enable the establishment of new places and processes which contributes to



Figure 3. ATC Guiding development approach 3- Choose your Hood



Figure 4. ATC Guiding development approach 4- Celebrating the Context

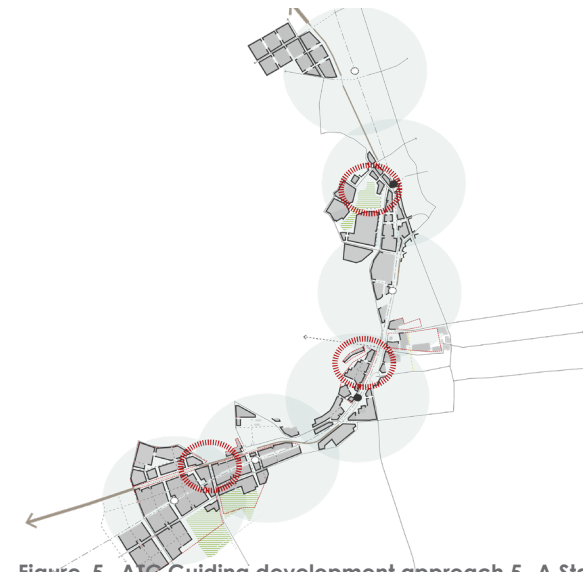


Figure 5. ATC Guiding development approach 5- A State of becoming

cultural development. Thereby expanding Stellenbosch's stock of publically accessible historic precincts and places, supporting national heritage assets and a critical tourism industry

INCREASED ACCESS TO LIVELIHOOD OPPORTUNITY FOR ORDINARY CITIZENS

Ensure the ATC increases local access to work opportunity by:

- Enabling job creation and entrepreneurship during all phases of its roll-out

Ensure access to a range of housing types:

- Ensuring specific provision is made for affordable and inclusionary housing across the site

SEAMLESS INTEGRATION WITH SURROUNDING AREAS

Ensure the ATC is spatially integrated with the rest of Stellenbosch by:

- Ensuring the design of new areas as well as the redevelopment of existing areas enables the seamless integration of existing parts of Stellenbosch including the old town and new areas (ie Kayamandi)
- Prioritising NMT options as means to integrate fragmented and isolated development

1.5. Report Structure

The guideline report is structured in two sections, with the first providing guidance at a **Precinct wide** scale. The guidelines in this section are applicable to the entire development. The second section of the report provides **Precinct Specific** guidance to protect the varying unique features within the ATC as well as to support varying development responses that relate to the precincts location. At all times, the guidelines are principle based and relate to realising the ATC strategic outcomes. The location and boundaries of the 11 identified Precincts within the ATC are indicated overleaf.

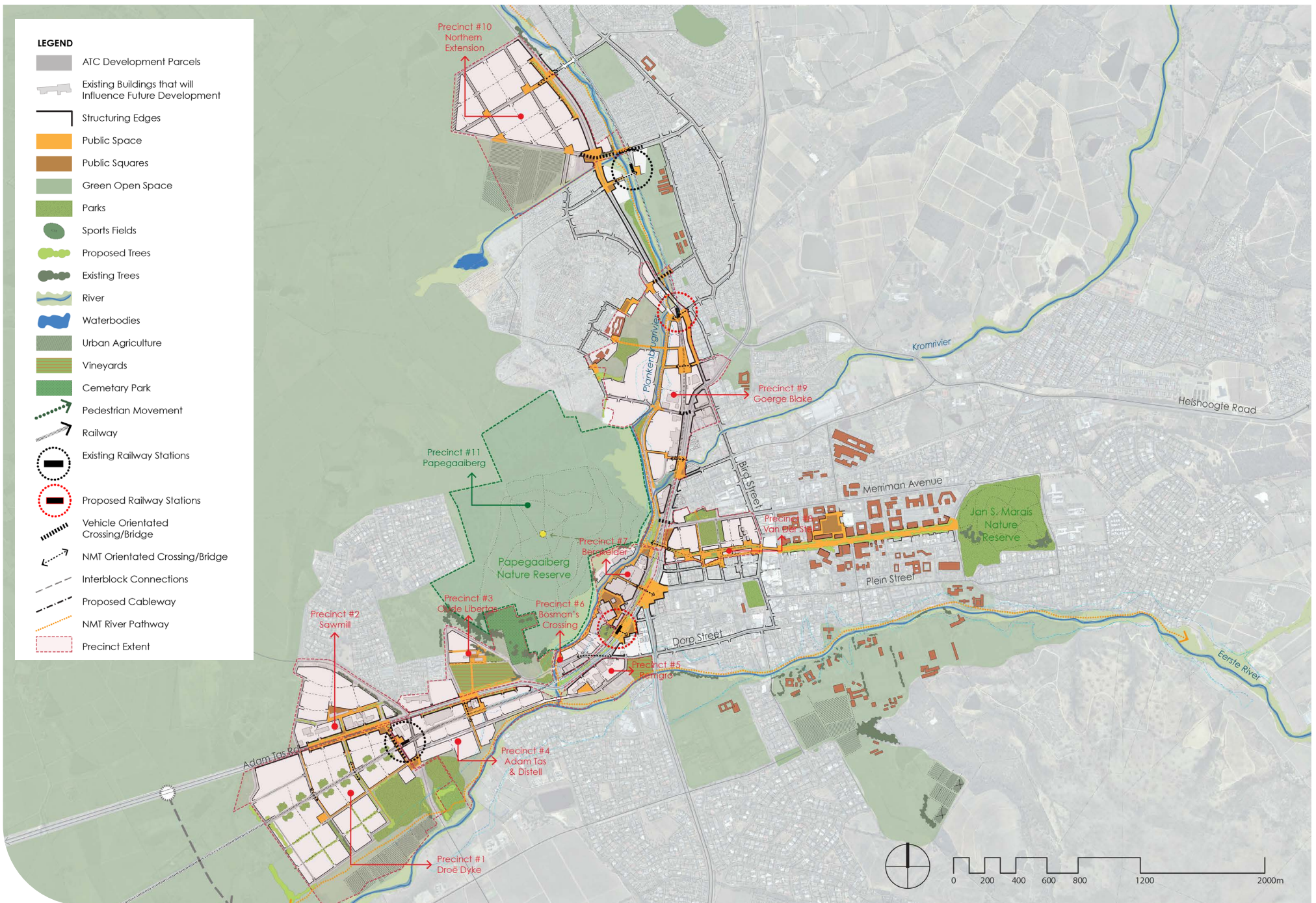


Figure 6. ATC Local Spatial Development Framework



Part A.

ATC Precinct- Wide Development Guidelines

2. ATC Precinct Wide Development Guidelines

This section provides overarching development guidelines for all of the precincts in the ATC and is applicable to all landowners.

The precinct-wide guidelines are structured according to the following themes:

- Green Network and Systems
- Development Structure and Buildings
- Public Realm, Landscape Engineering and Infrastructure Elements

2.1. Green Network and Systems

2.1.1. Approach to Rivers

Existing Condition

Three rivers abut or traverse the site, namely the Eerste, Plankenbrug, and Krom Rivers and converge at the ATC site.

Water quality and habitat diversity in the Plankenbrug River have been reduced by stormwater and wastewater discharges from Kayamandi and Stellenbosch and has been identified as a high risk area for human health.

Additional factors that have caused degradation of the river include pollution and eutrophication of the water due to over-fertilization of surrounding areas and upstream human activities.

Invasive alien vegetation (Grey Poplar (*Populus canescens*), Oak (*Quercus robur*), Weeping Willow (*Salix babylonica*), Stinkbean (*Paraserianthes lophantha*), Port Jackson (*Acacia saligna*), Black Wattle (*A. mearnsii*), Long-leaved Wattle (*A. longifolia*), Poplar (*Populus deltoides*), *Pittosporum* spp, Spanish reed, kikuyu and nasturtiums has

replaced much of the indigenous riparian vegetation throughout the Eerste River catchment. These alien trees have modified the banks, confining and deepening the channel, thereby increasing erosion.

The health of the river is largely dependent on the status of the riparian vegetation. Remnants of indigenous vegetation persist in and along the river. These include trees such as the Cape Willow (*Salix mucronata*), Spoonwood (*Hartogiella schinoides*), Wild Peach (*Kiggelaria africana*), Rock Candlewood (*Maytenus oleoides*), and Breede River Yellowwood (*Podocarpus elongatus*).

The Plankenbrug River along the boundary of Papegaaiberg is of conservation importance, being an ecological corridor that helps to link the Hottentots Holland Mountains with natural areas in the Cape Flats and the coast. In addition, these rivers provide habitats for a number of organisms that form part of the biodiversity of the area.

Opportunities

The Plankenbrug River can potentially be a significant public amenity and linear park, connecting the precincts of the ATC through NMT routes as discussed in the accompanying Adam Tas Corridor Local Spatial Development Framework.



Figure 9. Existing bridge over river



Figure 7. Polluted Plankenbrug River



Figure 8. View of river from road



Figure 10. Open space alongside river along route from Kayamandi

Recommendations:

- A freshwater biologist would be required to assess the state of the river and advise on remediation processes.
- To maximise the contribution of the Plankenbrug River to the overall development as a public amenity, upstream pollution needs to be managed, and infrastructure remedial work is required in Kayamandi.
- Improve stormwater and wastewater management in Kayamandi and Stellenbosch.
- Maintain a buffer area along river banks
Restore the indigenous riparian vegetation along the rivers

2.1.1.0.1. River Guidelines

1. Water quality of the river to be improved through improved upstream storm water & wastewater management.
2. Channel shape of the river to be restored.
3. Create a buffer zone alongside the river - ideally this should be 10m on either side.
4. The roadside edge of the river to be developed to create interaction with the river.
5. The mountainside edge of the river to have natural riparian vegetation restored (See Appendix 2)
6. The river and river banks to be cleared of alien vegetation on a regular basis (bi-annually) and replanted with indigenous riparian vegetation, enhancing the ecological function of the river as well as creating a visually appealing natural space.
7. Typha capensis and Phragmites australis needs to be cleared periodically to allow for free flow particularly during storm events.
8. Where the river is flanked by transport routes on both sides, a natural buffer zone (ideally 10m) should be created between the river and transport route and the edges restored as



Figure 11. Natural paths crossing small rivers



Figure 12. NMT routes along river



Figure 13. Creating natural buffers along the river on both sides



Figure 14. Creating natural buffers along the river on both sides

discussed above. The buffer zone to encourage interaction with the river through the use of raised boardwalks & viewing decks.

9. Access to Papegaaiberg, via the river, improved through the use of small bridges at various access points. The design and style of the bridges to be relevant to the precinct and sensitive to the natural environment and heritage of the space.
10. Different levels of access to be used. For example, larger timber bridge at main access point (see Landscape Masterplan) with smaller, more rustic bridges at minor access points.
11. Landscaped walkways along the Eerste and Plankenbrug rivers to range from informal natural paths (Precinct 4) to formal timber decks and paved walkways (along George Blake Road).

2.1.2. Approach to Floodplains

Existing Conditions

The figure alongside shows the extent of the floodplain in the ATC study area. Some areas within the floodplain have been developed.

Opportunities

Resilient landscape planning & design can help communities live with periodic flooding, if & when it occurs. It's important that a systems-based approach is used that goes beyond a single project.

These systems could be made up of preserved and strengthened ecosystems that act as natural channels and buffers; parks and open spaces that let water flow through safely, or store excess water for later use; and robust green infrastructure systems, including those for transportation networks, that cleanse and absorb flood water (SUDS).

Preserving ecosystems for flooding control also means preserving their biodiversity and all of the ecosystem services they provide – clean air and

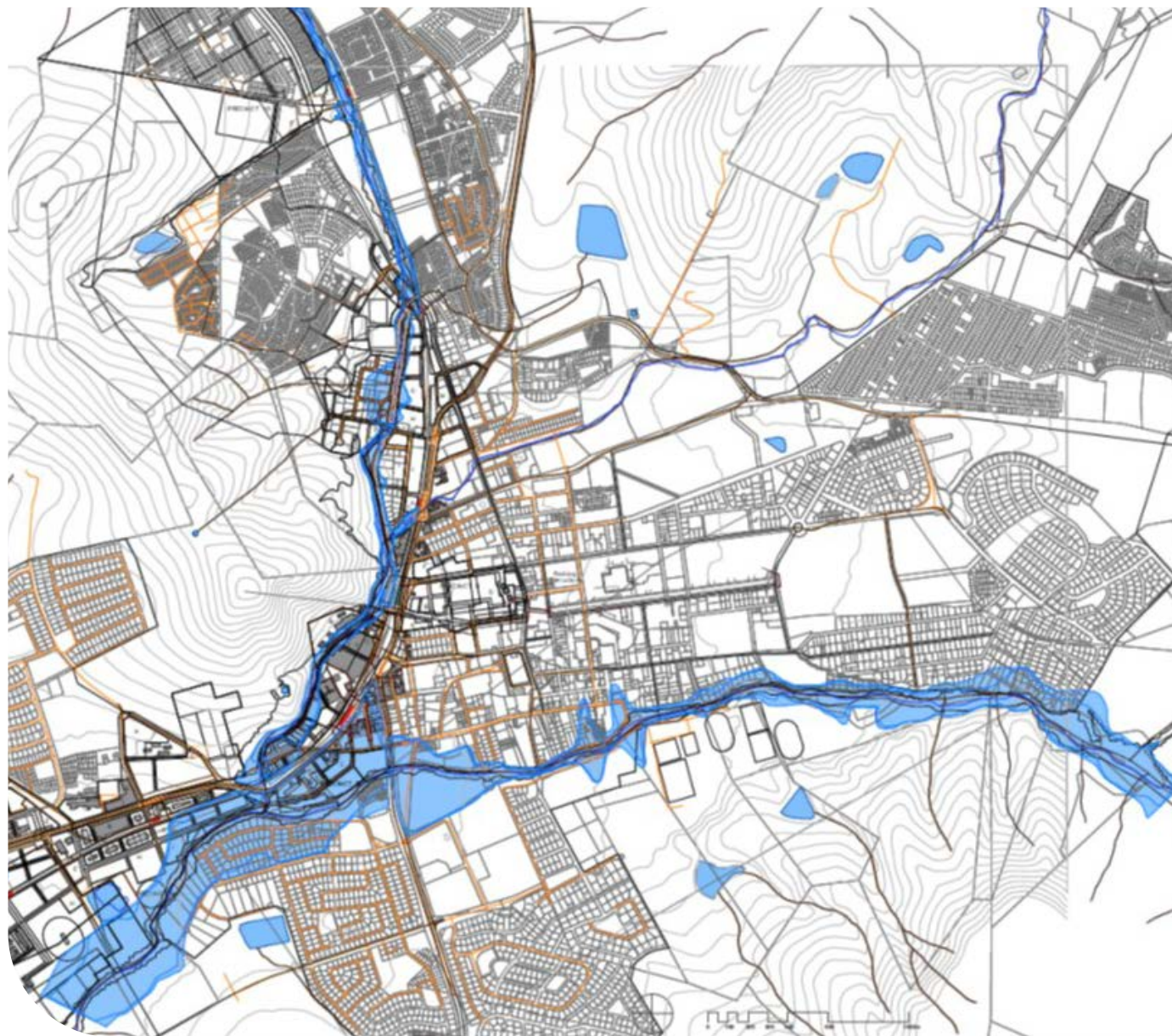


Figure 15. Extent of the floodplain

water, among others. Parks that move or store water during floods offer spaces for recreation that boost public health. In addition to absorbing water, green infrastructure cleans and cools the air, increases water quality, and recharges water tables.

Recommendations:

- Development has already occurred within the floodplain, so measures / systems will need to be taken to prevent and / or alleviate damage when flooding does occur.
- Any future development within the floodplain should be carefully considered – it should preferably be landscaped public open space areas, as mentioned above.
- Watercourses and wetlands are integral to the storm water management system, are an important component of the City's biodiversity network, and represent an essential element in restoring the urban fabric of the City by providing both recreational and economic opportunities¹.

2.1.2.1. Floodplain Guidelines

1. Future development in the floodplain is to be carefully considered.
2. Areas within the floodplain to be designed with water attenuation / SUDS principles (See 2.3.6) in mind.
3. Areas that fall into the floodplain should preferably include landscaped recreational public open spaces & sport fields.
4. Channel shape of the river to be restored, existing river channels to be kept clear of alien vegetation and extensive reed beds to be cleared prior to winter rains, to allow for free flow of water during storm events.
5. Sustainable landscape and flood mitigation design needs to be embodied.

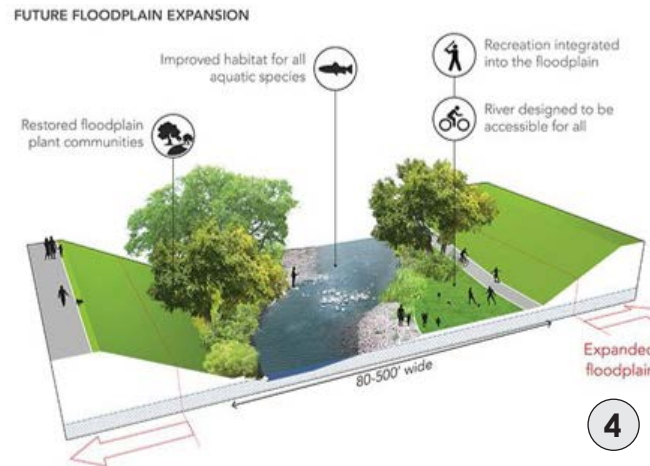


Figure 16. Examples of design inventions for use in floodplains

¹ See CoCT Roads & Stormwater Department, Catchment, Stormwater and River Management Branch. (2009) Floodplain and River Corridor Management Policy

6. The landscape has a vital role to play in the water management strategy of the area and should be designed to withstand fluctuations in storm water run off and flooding.
7. Run-off from hard surfaces should be directed into swales where planting / reed beds provide filtration and removal of suspended solids.
8. Detention basins or normally dry ponds provide space for the attenuation of rainwater run-off during peak storm events and provide a contribution to the public space when they are dry, as well as ecological value of the site.
9. The vegetated swales would provide habitat for wildlife and also provide filtration and final cleansing of rainwater run-off quality prior to discharge off-site.
10. Use of indigenous plants that are able to withstand periods of dry as well as wet, should be planted in or near swales to prevent erosion, scouring and wash-out of surface drainage systems and to prevent debris from washing into and blocking storm water culverts.

2.1.3. Approach to Planting of Indigenous Natural Areas

Existing Conditions:

Climate

Stellenbosch falls in the winter rainfall area of South Africa. Stellenbosch is 128m above sea level. The climate is warm and temperate. The temperature averages 16.2 °C, and the annual rainfall is 787 mm.

Geology / Soil

Soils in the study area range from coarse sandy and loamy soils to well-drained dark alluvial to clay soils derived from shales and granite rocks.

The soil types identified in the area are fertile and mineral rich lending to the dominant land use of farming. With the rainfall pattern confirm the suitability of the area for farming, it also provides

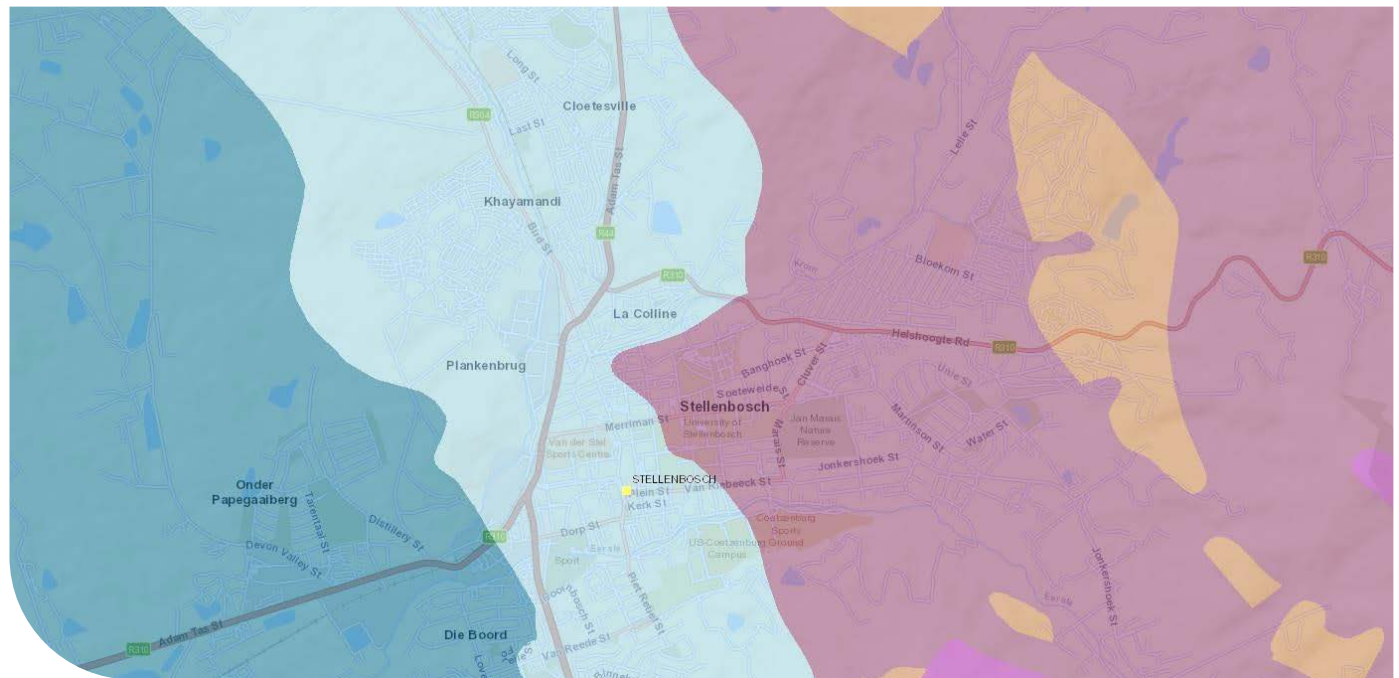


Figure 17. Vegetation types of the Adam Tas Corridor (Source: SANBI BGIS)

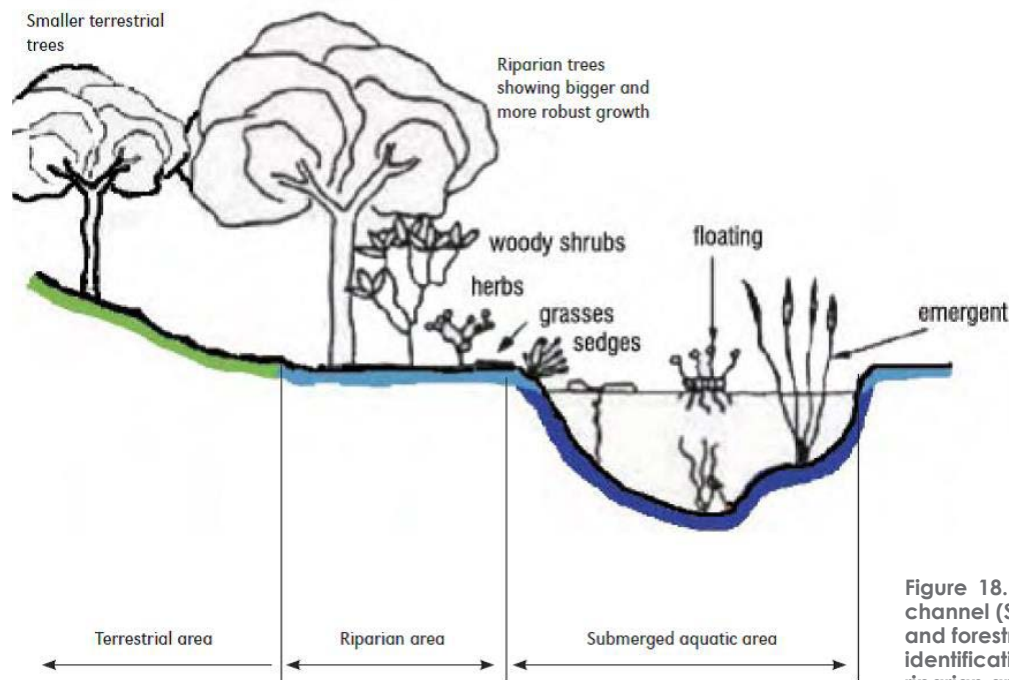


Figure 18. Cross section through riparian channel (Source: Department of Water Affairs and forestry. A practical field procedure for identification and delineation of wetlands and riparian areas)

opportunities for inclusive community focused planting installations.

Vegetation

There are three natural vegetation types (Mucina and Rutherford. 2006) that falls within the study area, namely, Swartland Granite Renosterveld (FRg2), Swartland Shale Renosterveld (FRs9) and Boland Granite Fynbos (FFg2). See Figure 17.

(NOTE: The vegetation type codes are based on Mucina & Rutherford, 2006.)

Swartland Granite Renosterveld and Swartland Shale Renosterveld are critically endangered vegetation types while Boland Granite Fynbos is regarded as vulnerable (SANBI, 2012).

Papegaaiberg falls into the Swartland Granite Renosterveld vegetation type, while the Plankenbrug River crosses both Swartland Granite Renosterveld and Swartland Shale Renosterveld.

Swartland Granite Renosterveld (FRg2):

This vegetation type is critically endangered¹ and 80% of this type has already been transformed into agricultural lands and urban sprawl.

It occurs on moderate foot slopes and undulating plains and consists of grasslands and herbaceous vegetation, dominated by Renosterbos.

Swartland Shale Renosterveld (FRs9):

Swartland Shale Renosterveld is a critically endangered vegetation type 1. It is estimated that as much as 90% of the area in which this vegetation type occurs have been transformed. Remnants are found in isolated pockets, usually on steeper ground on Papegaaiberg.

Boland Granite Fynbos (FFg 2):

It occurs on moderately undulating plains & hills and consists of a dense 1-2m tall shrubland. Dominated by scrub, asteraceous & proteiod fynbos.

Granite Fynbos is characteristically tall & dense. The drier slopes contain asteraceous fynbos, wetter areas are dominated by proteoid fynbos, while waboomveld is dominant on the mid to lower slopes.

Typical plants that occur in FFg2 are various Protea, Leucodendron & Leucospermum species.

Riparian Planting

The biggest problem with South African rivers is the proliferation of alien vegetation as well as river water quality, due to upstream agricultural practices, wastewater and storm water.

2.1.3.1.1. Riparian Planting Guidelines

1. Invasive alien vegetation to be removed.
2. An invasive alien removal management & maintenance plan to be established.
3. In some areas, the Quercus robur should remain as it has changed the soil profile considerably and it could be detrimental to the river to have them removed.
4. Indigenous reed beds to be cleared or thinned out.
5. A Freshwater Biologist to be consulted to assess the river & water quality.

6. Downstream dispersal of seeds by water from intact riparian vegetation patches is one of the important ways that rivers are vegetated.
7. Seed dispersal by wind or animals along the riparian corridor and from adjacent terrestrial vegetation also plays a role. These corridors therefore need to be maintained.
8. Seed propagation from dispersal will be low in negatively transformed areas where few natural refuge areas remain;
9. In this case, riparian species seedlings should be supplied and / or areas or nodes restored where propagation can occur through restoration of the river channel and banks.
10. Many buried seeds have long viability and may remain dormant until suitable germination conditions.
11. Soil-stored seed banks are an important source of regeneration in vegetation subject to frequent disturbances, such as fires, and are likely to play a role in riparian vegetation dynamics.

The table provides guidelines for riparian planting types to be considered.

TREES	
Botanical Name	Common Name
Brabejum stellatifolium	Wild Almond
Brachylaena neriifolia	Water Witels
Diospyros glabra	Bloubessie
Kiggelaria africana	Wild Peach
Metrosideros angustifolia	Cape-gum
Salix mucronata	Cape Willow

2.2. Development Structure and Buildings

2.2.1. Approach to Development Blocks

Over the length of the Adam Tas Corridor the development character changes. Development blocks within each precinct should be as flexible as possible to accommodate character, use and growth changes over time. Development blocks are formed by the grouping of individual erven or plots. A group of 4 or more development blocks forms a superblock.

The following guidelines apply:

1. Development block sizes should be robust to accommodate a variety of use and accommodate growth over time. In the implementation process, prioritise development on key street frontages and or external edges of the block to promote activation of the public realm. The internal parts of the block should be developed last.
2. Development blocks sizes should be able to accommodate a range of building typologies and erven layouts to maximise servicing efficiencies.
3. Blocks widths can vary and should range between 30 m to 45 m in order to accommodate back to back erven and limit backyard frontage onto streets or open spaces; Block lengths can vary but should be a maximum length of 180m to ensure ease of pedestrian access and movement within each precinct.
4. Large gated estates are not applicable in the ATC ie: large developments surrounded by continuous boundary walls which function as spatial barriers and restrict spatial integration. Secure precincts at the scale of the superblock should be explored, where active/positive street frontage is maintained and secure. internal spaces are developed with controlled access to the public.

1



Phased Implementation with prioritisation of the external edges of the Development Block (Drawing reference: Kelvin Campbell/ Massive Small)

2



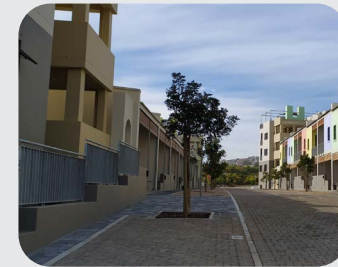
Structuring the Development Block to accommodate a range of building typologies (Drawing reference: Kelvin Campbell/ Massive Small)



PRECEDENT EXAMPLE: District 6, Cape Town

The Development Block designed to enable a range of typologies

(Drawing reference: Jacupa Architects and Urban designers)



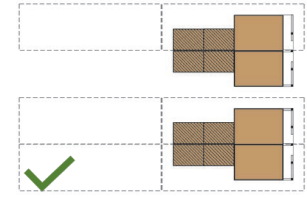
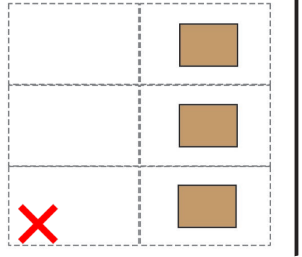
2.2.2. Approach to Building Placement

The placement of buildings on an individual property has a significant impact on both the public environment as well as the flexibility of the property and possible development options. Buildings that are located in the centre or to the back of a property provide little to no sense of enclosure to the street or space, limited surveillance opportunities overlooking the public realm and no flexibility in terms of growth over time and should be avoided.

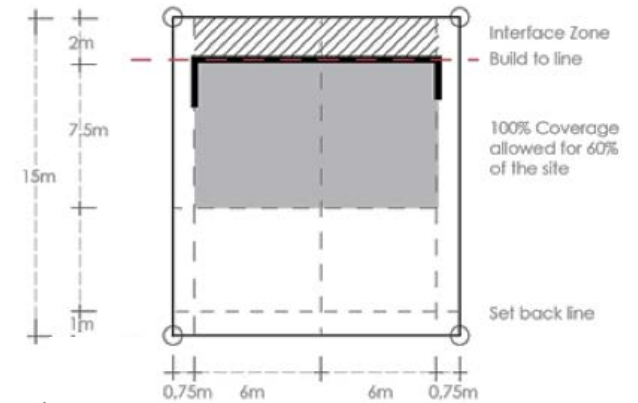
In order to create a positive urban environment that includes, defined and surveilled streets, maximum flexibility for growth and ability to accommodate change, the following guidelines apply:

1. Position buildings to the front of plots along the street edge.
2. Establish setback lines of no more than 5m from the street boundary in residential environments and no more than 2m in a mixed-use environment.
3. Ensure continuity of the street edge: at least 60% of the building footprint should be placed on or within 2m of the street fronting property boundary to ensure street and space enclosure and continuity in the street façade.
4. Building entrances should be located along the street edge.
5. Ensure that buildings are configured to enable development to front onto and define the public realm and for secondary, service and private functions to be located to the backs of plots.
6. For both residential and commercial/retail uses, locate parking to the rear of the plot with the building along the street edge.

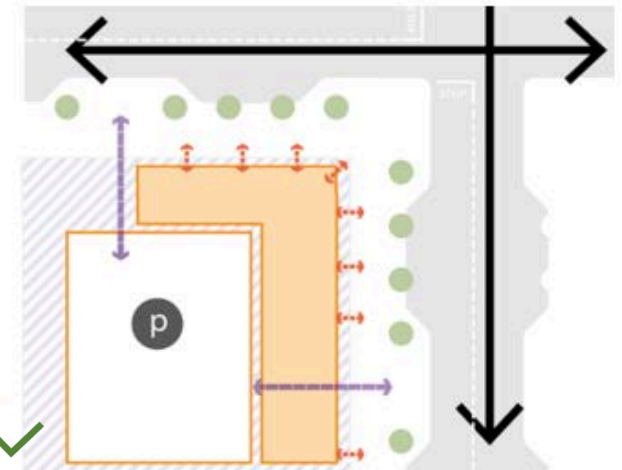
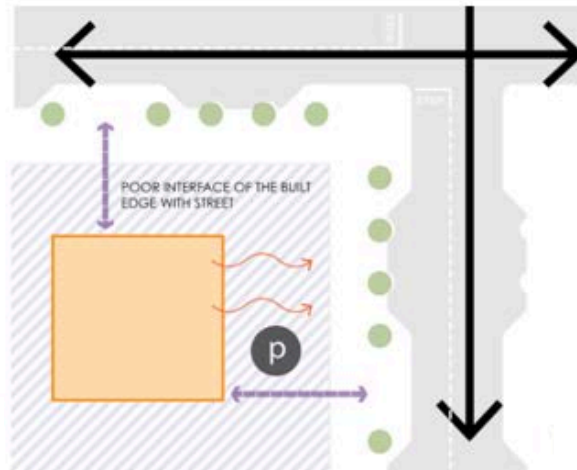
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3



6



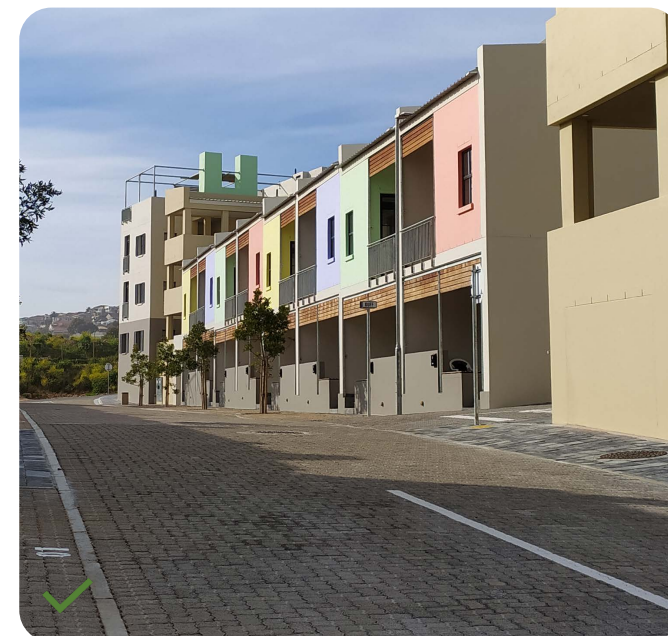
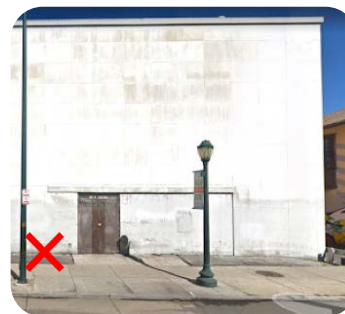
2.2.3. Approach to Street Edge and Property Frontage Conditions

The interface between public space or street space and the development that edges it is fundamental to the functioning and success of the public environment, which in turn impacts the social, economic and environmental functioning of the place overall. Built form that has a positive interface with the public realm helps to promote safety through surveillance and a sense of place,

The following guidelines should be applied:

1. Bring life to the street by maintaining visual connections between inside and outside, especially in the frontages of public buildings.
2. Promote the use of buildings to define and secure the perimeter boundary. Perimeter fences should be kept to a minimum, but used must be visually permeable (ClearVu fencing is preferable to palisade fencing).
3. Building facades fronting onto the public realm should be visually active (a building is considered “visually active” if 30% or more of the frontage includes features such as windows, doors, transparent walls and accessible open space)
4. The use of level changes is useful to demarcate between the public and private realm: front stoeps, steps, low walls, colonnades, overhangs and planting are all elements which can be used to create a sense of privacy from the public street, while still providing surveillance.
5. Provide protection from the elements with overhangs, colonnades, shading elements and strategic tree planting.
6. In multi-storey buildings, balconies should be incorporated to ensure that there is passive surveillance overlooking the public realm.
7. Locate primary entrances of multi-storey buildings onto the street.

2



1



2.2.4. Approach to Public Facilities

Public facilities are special, landmark buildings that aid in activating, defining the public realm and creating a sense of place. Community halls, civic centres, public transport interchanges, education facilities, libraries, police stations, hospitals, places of worship and performance spaces fall under the Public facility category

They are places for communities to gather in a safe and secure environment. The design of these buildings and nodes should therefore be of high quality with a strong identity.

The following guidelines apply to the design and development of new and or upgraded public facilities within the ATC corridor:

1. A mixed-use approach should be taken whereby facilities are clustered to support the sharing of resources and optimization of space.
2. The type and scale of the public facility cluster should reinforce the nodal structure and hierarchy of the ATC.
3. A 'hub and spoke' logic should be applied between the public facility clusters to promote sharing of resources between them.
4. Locate public facility clusters within easy and convenient access to transit or non motorised routes.
5. Locate public facility clusters within mixed use precincts to support ease of access.
6. Associate public facilities with public spaces or parks where they can support the development of legible civic nodes.
7. Adopt urban building forms, coverage and setbacks. They should be designed as multi-storey, mixed use buildings on compact plots.
8. Design public facilities to function as a places for increased public safety by including 24 hour monitored waiting areas/ light boxes as piloted in the 'VPUU' projects in Khayelitsha, Cape Town
9. The perimeter of public facilities should ideally be made by buildings (rather than fences) to establish a secure and low maintenance perimeter and active street edges.
10. Façades must be positive and engaging to ensure an active, safe public environment.



Figure 19. VPUU in Khayelitsha



2.2.5. Approach to Parking

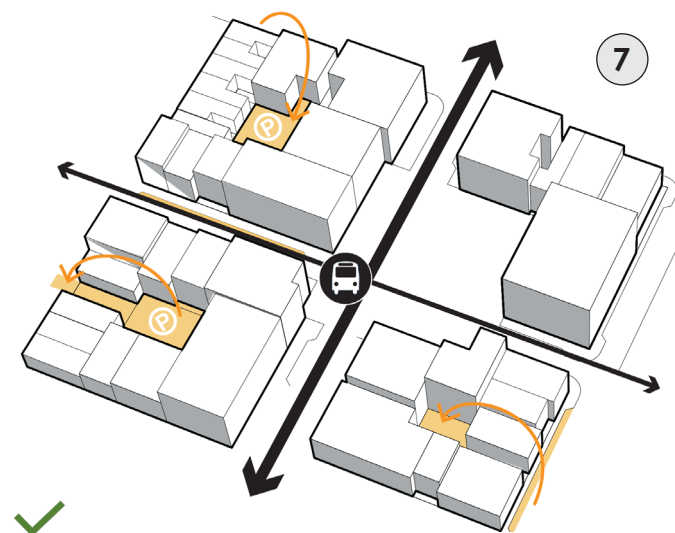
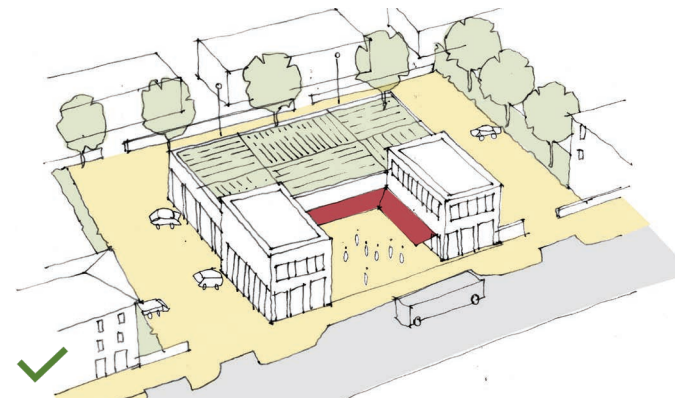
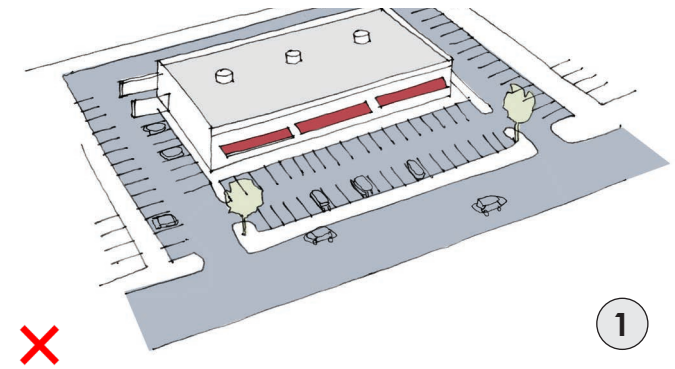
While mixed use, TOD is premised on reducing dependence on cars and prioritising public transport, NMT access and movement, an element of vehicular access will be part of the ATC for the foreseeable future. Parking should however be designed in a way that its negative impacts are minimised and that it can evolve over time depending on the parking need. The approach to parking is to limit the visual impact of cars, while still providing parking in close proximity to homes and amenities wherever possible. While it is understood that the current environment requires space for cars, the idea is to 'future proof' the precinct so that spaces given to parking can be used for other purposes on a temporary basis in the present, and more permanently re-purposed in the future when public transport is the dominant mode.

The location and design of parking is key. The form and location that parking could take is indicated below:

1. Parking lots should not be located in front of buildings, wherever possible it should be located towards the back of the property in order to create a positive street interface;
2. Design surface parking lots as multi-functional parking courts that can be used for other outdoor activities. Make provision for at least 30% of the total area for landscaping treatment including play facilities and seating areas for users surrounding the area
3. Parallel parking can be included within the streets sections but no more than 5 bays in a row before interrupted by a landscaped area or sidewalk extension;
4. Parking lots/park and ride and parking garages can occur within designated parking zones located close to public transport stops/stations.
5. Structured parking should have an appropriate floor to ceiling height to accommodate retrofitting to another use within the future.



6. Structured parking garages should be form part of a multifunctional facility with a positive street interface
7. Locate parking to the rear of plots, within internal parking courts with the development block or above the first floor within structured parking.
8. Avoid locating parking on the ground floor of buildings and where unavoidable, setback parking areas by a min of 10m from the dominant street edge in order to create active street frontage
9. Design the upper floors/ facade of structured parking garages to integrate with the surrounding urban fabric



2.3. Public Realm, Landscape, Infrastructure and Engineering Elements

2.3.1. Approach to Public Open space

A range of public open spaces are provided for in the ATC. These comprise both natural and urban spaces. In some cases the spaces are existing and required restoration, with others being new spaces.

The guidelines to support both the development of new areas as well as the restoration of existing spaces is outlined below



Figure 20. ATC Landscape Framework (AGC Architects and Development Planners, 2021)

2.3.2. Public Squares and Forecourts

Public Squares and forecourts are the most important form of social infrastructure in urban developments. They act as “urban living rooms”, and connect communities and inform people’s “mental maps” of the place.

Public Squares and forecourts are typically paved (hard surfaced) and surrounded by buildings on a number of sides. They are designed to be functionally and proportionally appropriate to surrounding development and are designed to be flexible and accommodate a range of activities. These range in size and function including transit, civic and local squares. The following guidelines apply:

2.3.2.1.1. Public Squares and Forecourts Guidelines

1. Locate at places of high accessibility and associate with public transport, public facilities and retail concentrations.
2. Use landmarks, clearly defined edges and the relationship with the surrounding buildings to structure and organise legible spaces.
3. Define boundary/ transition between public space and private space using level changes, low walls and planting rather than high fences or barriers.
4. A minimum of 3/4 or 60% of outer edge should include features, walls, or building facades to define the space within. This allows 40% of permeability to enter or exit the space.
5. Balance the perceived openness and definition by ensuring permeable boundary treatments at edge of space.
6. Arrange doors, windows and overlooking elements of buildings to overlook adjacent public spaces.
7. Provide lighting scaled to pedestrians in public spaces to provide useable, active space.



Locate lighting to indicate paths and areas for night-time use.

8. Establish human scaled squares with appropriate sense of enclosure by maintaining a width of space to height of surrounding building ratio of no more than six times wider than the height of buildings around it. (ratio of 6:1)
9. Signal pedestrian priority through continuous surfaces over streets that edge or traverse spaces and demarcate vehicular and transit lanes around squares with bollards or low walls where necessary.
10. Encourage social interaction and diversity of use by designating zones for stopping, standing, sitting and people watching, informal play and events.
11. Edge with buildings that bring activity such as public buildings, small shops and food outlets.
12. Accommodate activities such as markets, events, exhibitions and markets.
13. Create a positive interface to the square that provides passive surveillance of the square.

2.3.3. Green Spaces and Pocket Parks

Edges can be activated through the creation of "Pocket Parks", route planting and materiality.

Green Spaces & Pocket Parks will help activate the edges of the roads, railway and enhance the NMT routes, whilst enhancing the public spaces along the routes. They would also make use of neglected spaces.

These pocket parks would have different functions according to the precinct in which they occur. These could be:

- Green shaded landscaped areas – these could also be areas which serve multiple purposes:
- Recreation and SUDS design elements
- Hard landscaped (paved) areas with seating

- Play areas – closer to residential communities or in a larger park, such as the proposed Railway Park
- Exercise parks
- Trading areas
- Mixed use areas

The river plays a large role as a major green space and green NMT route and should be activated through restoration and design as discussed earlier (see section 2.1).

2.3.3.1.1. Green Spaces Guidelines

1. Design with the precinct and community requirements in mind
2. Allow interaction with surrounding activities
3. Create visual buffer if alongside a major route
4. Defined edges with a possible focal point
5. Design using SUDS principles
6. Maintain the hard landscaping (paving) and street furniture palette to provide a basic legibility throughout.
7. Maintain planting palette.



Figure 21. Examples of Green Spaces & Pocket Parks

2.3.4. Railway Recreational Park

A Railway Recreational Park is proposed to be developed within the railway reserve, close to station and alongside the railway line (Precinct 7). This is envisaged to activate the whole transport precinct area.

The vision is a railway / industrial themed park with skateboard ramps, play, take away foods, markets and trading that links with the heritage of the area.

The existing railway structures and old railway lines to be used as design features (see precedent).

Trees and planting can be used to create a contrast between industrial and nature.

2.3.4.1. Railway Park Guidelines

Awaiting

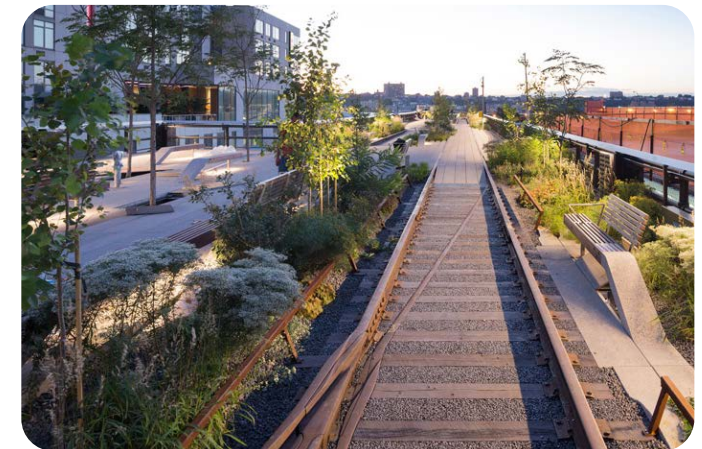
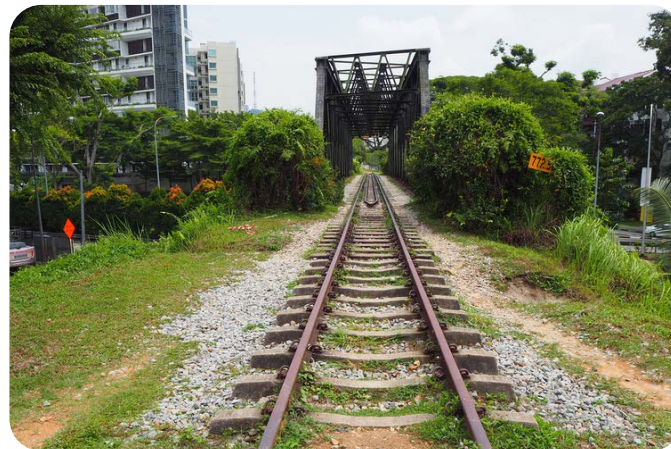


Figure 22. Examples of a railway recreational park and simple interventions for public seating and landscaping

2.3.5. Sports Fields

Sports fields use many resources and can be environmentally unfriendly spaces, yet they create important open recreational spaces.

There are many opportunities to create sustainable sports areas for use by the local communities as well as safe recreational spaces.

2.3.5.1. Sports Fields Guidelines

There are various important components to sustainable sports fields:

1. Investigate other innovative methods / technologies to reduce the need for potable water in irrigation. If possible, incorporate under-field storage of rain water to be used for supplemental irrigation

Water Preservation:

2. Water usage for sports fields can be very high due to irrigation and to clean the venue / stadium. Stadiums can reduce water depletion by implementing green initiatives such as rainwater collection, water harvesting and recycling, particularly where there is roof space.
3. Replace lawn with synthetic lawn to reduce water usage.
4. Create green bio-swale areas to recharge water table at the edges of the sports fields and in parking areas.

Energy Preservation

5. The use of alternative energy sources decreases energy usage, such as solar and wind power to power stadiums.

Low Pollution

6. Use of green building materials result in lower waste and pollution in the environment.

Financial Benefits

7. Green projects are essentially cheaper to sustain and operate. Expect lower water,

energy, maintenance and insurance premium costs. The value of the project will also appreciate over time.

8. Developments alongside sporting facilities to incorporate green initiatives to support the sporting facilities.



Figure 23. Sport fields precedent



PRECEDENT EXAMPLE: Ithemba Labantu, Philippi

Mixed Use Sports and Retention pond facility

(Drawing reference: Design Africa Architects)



2.3.6. Approach to Sustainable Urban Drainage Systems (SUDS)

Existing Conditions

Road surfaces and parking areas along the ATC are the main causes of storm water runoff.

At present, all stormwater runoff goes into the storm water drain system.

The central medians are mostly narrow in the study area. Parts of the medians are landscaped (see Figures 24 - 26).

The road and railway reserves are grassy. The road reserves show walkway desire lines by pedestrians, emphasizing the need to a more formalised pedestrian walkway.

The parking areas are predominantly hard dry spaces with very little planting.

Opportunities

Due to the high storm water runoff potential of the roads & parking areas, the use of SUDS principles, provides an opportunity to promote a healthy environment through designing for water quantity management, water quality treatment, whilst enhancing biodiversity.

SUDS design options in combination with landscaping, alongside the roads, the central road median and in parking areas should be an important requirement in future road and parking space development.

Recommendations

Use of permeable paving used in parking areas & areas of hard landscaping to recharge the water table or for collection in tanks where irrigation is required.

Parking areas should be landscaped, using trees to provide shade as well as small bio retention areas for storm water

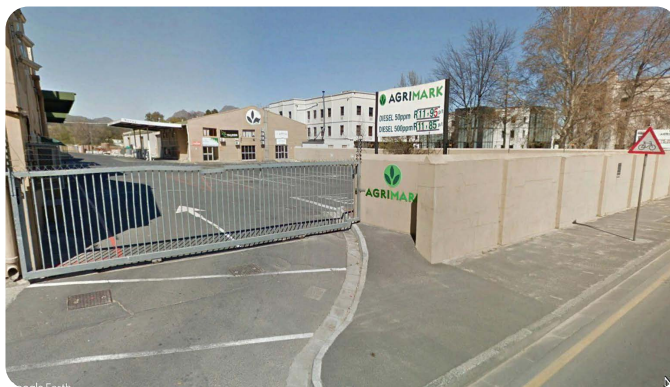


Figure 24. Google Earth Street View Image (2021)



Figure 25. Google Earth Street View Image (2021)



Figure 26. Google Earth Street View Image (2021)

2.3.6.1. SUDS Guidelines

Sustainable Drainage Systems (SUDS) offer an alternative to conventional storm water management which focuses on quantity flow management, by collecting runoff and channeling it to the closest watercourse. This has an impact on the environment through siltation and pollution.

SUDS provide an opportunity to promote a healthy environment through designing for water quantity management, water quality treatment, whilst enhancing biodiversity.

Typical SUDS options include: bio-retention areas, filter strips, infiltration trenches, sand filters and swales. These will aid in cleansing the storm water and recharging the ground water. The type of option used is dependent on the storm water (flow quantity) requirements.

Treatment of Roads:

1. Road reserves to include SUDS options mentioned above to allow for cleansing & water table recharge.
2. Central medians, where wide enough, to include SUDS options. These can range from filter strips or infiltration trenches with a stone layer above, to vegetated swales which can take a larger quantity of storm water flow as well as being an attractive feature.
3. Vegetated swales can be planted with relevant plant species able to withstand seasonal flooding.

Treatment of Parking Areas & hard landscaped areas:

4. Permeable paving or permeable asphalt to be used where possible.
5. SUDS options to be included where possible within parking areas. These can be attractively designed solutions which enhance the space.
6. These can be planted vegetated swales or stone lined infiltration trenches

7. Tree holes can also become bio-retention areas where storm water can soak in and recharge the ground water. Tree surrounds should allow water flow and can be included in drainage channels.

8. Routes to be planted with hierarchy in mind.

The tables on the following page give guidelines on planting species as options for SUDS.



Figure 27. Example of edge activation using tree planting & seating whilst incorporating SUDS design



Figure 28. Example of tree use in a pocket park



Figure 29. SUDS precedent images

SWALE EDGE & SLOPES	
Botanical Name	Common Name
Arctotis stoechadifolia	African daisy
Asparagus densiflorus	
Carpobrotus acinaciformis	Sour Fig
Carpobrotus edulis	Sour Fig
Chrysocoma coma-aurea	Golden heads
Arctotis stoechadifolia	African daisy
Asparagus densiflorus	
Coleonema album	Confetti Bush
Elegia filacea	Little golden curls
Elegia tectorum	Cape thatching reed
Eriocephalus africanus	Wild rosemary
Geranium incanum	Carpet Geranium
Helichrysum cymosum	Yellow everlasting
Helichrysum dasyanthum	
Helichrysum patulum	Kooigoed
Juncus capensis	
Kniphofia uvaria	Red Hot Poker
Pelargonium betulinum	Camphor-scented pelargonium
Pelargonium capitatum	Rose-scented pelargonium

SWALE BASE & WET AREA	
Botanical Name	Common Name
Agapanthus species	
Cliffortia ferruginea	Glastee
Elegia stipularis	
Elegia tectorum	Cape thatching reed
Elegia nudum	Reed
Isolepis prolifer	Sedge
Juncus bufonius	Toadrush
Juncus dregeanus	Rush/biesie
Juncus kraussii	Rush
Kniphofia uvaria	Red Hot Poker
Wachendorfia thyrsiflora	Rooikanol
Zantedeschia aethiopica	Arum lily

2.3.7. Approach to Non-Motorised Transport (NMT)

Existing Conditions

The edges of the roads at present are non pedestrian friendly. This can be seen through the many desire lines that run alongside Adam Tas Road (see Figures 30 and 31).



Figure 30. Google Earth Street View Image (2021)



Figure 31. Google Earth Street View Image (2021)

Opportunities

- To formalise the pedestrian paths, intersected with pocket parks and or public spaces with varying functions.
- Using SUDS design to create pedestrian & cycling routes
- To create safe user friendly routes

2.3.7.1. NMT Guidelines

To make non-motorised modes of transport viable and convenient requires rebalancing of the street space so that it caters to all modes of transport. The physical design of streets and the provision of sidewalks, crossings, and other walking infrastructure is crucial to creating a high-quality walking environment.

This requires the following:

1. Systematic traffic calming on smaller streets to reduce motor vehicle speeds and provide safe places for the mixing of pedestrians and other modes (shared lanes)
2. Pedestrian and cycle infrastructure that is physically separated from motor vehicle traffic on larger streets, paired with traffic calming or traffic control to facilitate safe crossings.
3. Pedestrian footpaths should provide clear space for walking, with other elements positioned in a strategic manner. These elements include paving, landscape planting, street lighting, street furniture, and other sidewalk amenities.





Figure 32. Examples of integration of NMT & SUDS interventions

4. There are also features that make streets more accessible, including curb ramps, tactile paving, and accessible traffic signs.
5. Similarly, dedicated cycle tracks should be provided, separate from the mixed traffic carriageway.
6. To use sustainable urban drainage (SUDS) design and / or landscaping to create non-motorised transport routes as a method of separating pedestrian walkways and cycle routes from the main streets.
7. Large streets require signalisation or traffic calming at crossings and intersections to enable pedestrians and cyclists to cross the street safely.
8. The river provides a “green” recreational NMT route that connects Kyamandi to the industrial area, to the station and to the town. This NMT route would be treated differently as a more recreational route, emphasizing the river itself. This could include boardwalks and decks with seating over the river.
9. NMT and recreational areas to be differentiated from roads through the use of paving.

2.3.8. Approach to Bridges and Grade Separation

Bridging elements within the ATC are important pieces of public investment. They ensure the accessibility between opportunities on either side of the railway line and busy, wide Adam Tas Road. These bridging elements are either NMT focused or vehicle focused and can either be overhead or underpass.

2.3.8.1. Pedestrian Bridges/Underpasses

Pedestrian overpasses and underpasses allow for the uninterrupted flow of pedestrian movement separate from vehicle traffic typically where no other option is feasible. Their design must ensure pedestrian and cycle safety and comfort as a priority.

The following guidelines apply:

1. Bridges and underpasses should be designed to maximise the safety of users at all times; Where appropriate integrate safety features such as balustrades and vertical supports as design opportunities to enhance the visual appeal of the structure
2. Locate bridges in positions of high NMT access and convenience. Locate on clear, direct, and well-connected routes that are accessible by everyone including pedestrians, cyclists, and people pushing prams or wheelchairs.
3. To improve safety locate entrance points to bridges and underpasses close to active spaces such as shops, parks and public spaces or markets. Bridges should not be positioned in isolated locations
4. Integrate pedestrian bridges within or on the edge of buildings where possible. This will promote access for the disabled where lifts can be integrated within the building structure



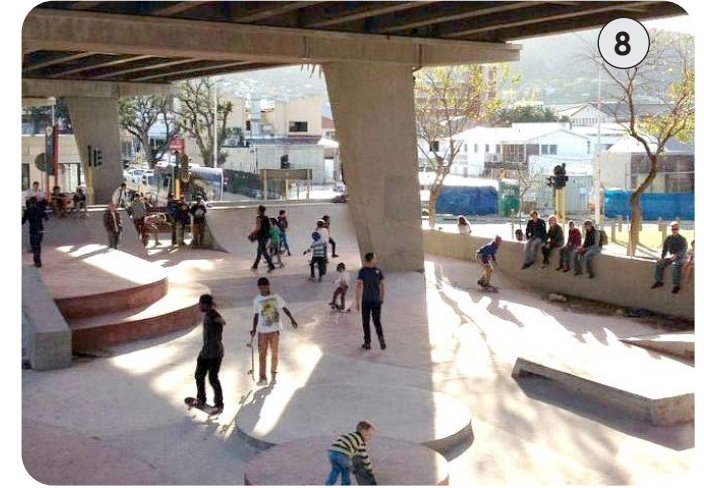
5. If a route over a bridge or through an underpass or is restricted to a single entrance and exit, it should be the shortest possible route and avoid curves or corners.
6. Provide durable lighting for safe nighttime use.

2.3.8.2. Vehicle Bridges

Vehicle bridges are large and expensive pieces of public infrastructure. They should be carefully designed to minimize their impact on the public realm and pedestrian experience

The following guidelines apply:

7. Vehicle bridges should be elegantly designed to minimise their negative impacts.
8. Where an underpass is created by an overhead vehicle bridge, the space should be carefully designed to create a positive place.
9. Design breaks and openings into the overhead surface to allow maximum entry of natural light;
10. Include sidewalks and NMT facilities with all vehicle bridges.
11. Allow a minimum pedestrian-way width of 3m on overpasses and underpasses.



2.3.9. Approach to Streetscape Planting

Existing Conditions

Historically, the deciduous English Oak (*Quercus robur*) is one of the most well-known of all exotic species in South Africa. Coming from Europe, it was one of the first trees to be planted by the early settlers in the Cape region as it was deemed to be suitable for providing wood for wine barrels.

There are many mature English Oaks lining the streets of Stellenbosch, giving Stellenbosch the name 'Eikestad', which means village of oaks.

Based on the manner in which ATC will create a series of new neighbourhoods within the existing town footprint of Stellenbosch, there is opportunity for creating a new identity building on the character and heritage of the ATC sites, as an extension but also in contrast with the old character of town. Considering new planting aesthetics that are appropriate to the geology and climate can thus add to a new and identifiable character throughout the ATC.

2.3.9.1. Streetscape Planting Guidelines

1. Retain the use of English Oak trees at heritage gateway points
2. Introduce new tree species in the pocket parks and along transport routes
3. Use of more ornamental / colourful tree species to demarcate a recreational use space.
4. In appropriate areas, fruiting trees & vines can be incorporated in the design to link to the agricultural heritage of Stellenbosch.



Figure 33. *Quercus robur* (English Oak). This is an important heritage tree of Stellenbosch and should be used in combination with other indigenous trees.



Figure 36. *Harpephyllum caffrum* (Wild Plum). An indigenous, water wise solid tree that can be used as a street tree and in parks / open spaces



Figure 34. *Erythrina caffra* (Coastal Coral Tree). An indigenous, deciduous, water wise and colourful tree that can be incorporated into the "pocket parks".



Figure 35. *Calodendron capense* (Cape Chestnut). This is an ornamental tree of the Cape and is mostly evergreen. It is suitable for use as a shade tree in parks.

2.3.9.2. Streetscape and SUDS Planting List

The following tables contain planting options as per the above guidelines.

TREES	
Botanical Name	Common Name
Calodendron capense	Cape Chestnut
Erythrina caffra / lysistemon	Coral Tree
Harpephyllum caffrum	Wild Plum
Quercus robur	English Oak
Searsia pendulina	Wit Karee

ACCENT PLANTING	
Botanical Name	Common Name
Aloe arborescens	Krantz aloe
Aloe barberae	Tree aloe
Aloe cryptopoda	Geelalwyn
Aloe thraskii	Dune aloe
Strelitzia reginae	Crane Flower

SHRUBS	
Botanical Name	Common Name
Leucospermum spp	Pincushion
Orthosiphon labiatus	Pink Sage
Pelargonium capitatum	
Pelargonium cordifolium	Heart leaved pelargonium
Pelargonium reniforme	Kidney leaved Pelargonium
Plumbago auriculata	Plumbago
Polygala fruticosa	Heart leaved polygala
Salvia aurea	Bruinsalie
Tecoma capensis	Cape Honeysuckle

GROUNDCOVERS, BULBS AND RHIZOMES	
Botanical Name	Common Name
Arctotis spp	
Agapanthus spp	
Aristea ecklonii	Blue Stars
Chasmanthe aethiopica	Cobra lily
Cotyledon spp	
Dietes grandiflora / bicolor	Iris
Felicia filifolia	Bulbous Sedge
Gazania spp	
Geranium incanum	Carpet geranium
Helichrysum dasyanthum	Fynbos everlasting
Osteospermum moniliferum	Bietou

2.3.10. Approach to Street Lighting and Furniture

2.3.11. Lighting

Lighting increases safety in areas that people use, such as streets, public open spaces and transport nodes.

It aids in geographic orientation, as people can use well-lit focal points as landmarks to help them find their way.

It highlights the identity and history of an area, for well-lit historic details draw attention to the uniqueness of an area.

Lighting can create a mood and or sense of drama.

2.3.11.1. Lighting Guidelines

Transport Nodes:

1. People feel more secure when train, bus and taxi stops are well lit.
2. Lighting also draws attention to and encourages use of such amenities.

Signage:

3. Well-lit maps, along with directional and informational signage, are essential to providing orientation and safety at night.

As a traffic-calming device:

4. A hierarchy of lighting to be implemented
5. The difference between a pedestrian-lit street and a highly illuminated highway automatically signals to drivers that they have entered a new and different zone, and compels them to slow their driving speed.

Street Character:

6. Special conditions relating to street character are important considerations in determining an appropriate fixture.
7. Qualities such as the architectural or historical character of the building or park edge, the

existence and density of a tree canopy, and the degree of ambient light are all factors.

8. The use of the street will determine the type of lighting required. For instance, if the main use is to channel a rapid flow of traffic, the recommended height of the lights, light level & brightness would differ from that of a low-traffic residential street, which should in turn differ from a pedestrian-oriented street.
9. Street lighting that is implemented as part of an overall streetscape design in conjunction with street furniture and other elements, that will reflect the character and pedestrian-oriented quality of the street, and can potentially enable the off-street area (sidewalks, public open spaces, pocket parks) to be more conducive to pedestrian and trading activities.
10. Light fixtures that serve different purposes should relate to one another as part of a design family of fixtures.

Edges:

11. More closely spaced light posts create a stronger edge along a sidewalk, reinforcing the sidewalk itself as an exterior habitable space.
12. The edges of any public open spaces, for instance, interesting gateposts, fences, and specimen trees visible from the adjacent street, should be lit to help define and identify the interior space.
13. Buildings located on the edges of a public open space can also have seasonal lights, bringing attention to the larger district beyond the park.

Entrances & Architectural details:

14. Lighting entrances, archways, cornices and columns can call attention to the uniqueness or heritage aspect of a building or structures, and bring a sense of drama to the experience of walking at night.

15. Careful evening lighting around building entrances, particularly train stations, commercial and residential building doorways contributes to the safety of a district and highlights heritage features.

Landscaping & public open spaces:

16. Up-lighting of large trees creates atmosphere and effect
17. Trees lit with small white fairy lights have become a popular sight in many areas as they impart a magical feeling and bring positive attention to streets and public spaces.
18. Effective low level lighting in public open spaces / pocket parks to create atmosphere and safety.

Natural Areas:

19. Lighting in natural areas ie along the river walkway to be subdued. Bright lighting can have a negative impact on the biological systems of natural areas.
20. The walkways and bridges to have low level lighting at low lux levels.



Figure 37. Lighting precedent

2.3.12. Approach to Universal Access

Streets, transport nodes & NMT routes

Use of streets and public transport services can be a serious challenge for Special Needs Users (SNU) and various guidelines need to be followed to allow ease of access.

Natural Areas

All access to river crossings (bridges) and river walkways must be accessible to disabled persons.

2.3.12.1. Universal Access Guidelines

Streets, transport nodes & NMT routes:

1. Designing of neighbourhoods and the built environment that include walkways, cycle ways, traffic calming, public spaces and clear pedestrian crossings.
2. NMT routes to be constructed of materials that allow ease of access and movement.
3. Slopes of 1:15 gradient to be used instead of steps.
4. Enhanced connectivity to stations and surrounding environments, public transport interchanges, public transport stops and taxi ranks.
5. Universal accessibility to all forms and modes of public transport including trains, buses and mini-bus taxis.
6. Availability of transport information and way-finding for all including tourists.
7. The following design interventions & methods should be used:
 - Bicycle lanes
 - Walkways
 - Dropped kerbs
 - Tactile paving
 - Guard rails

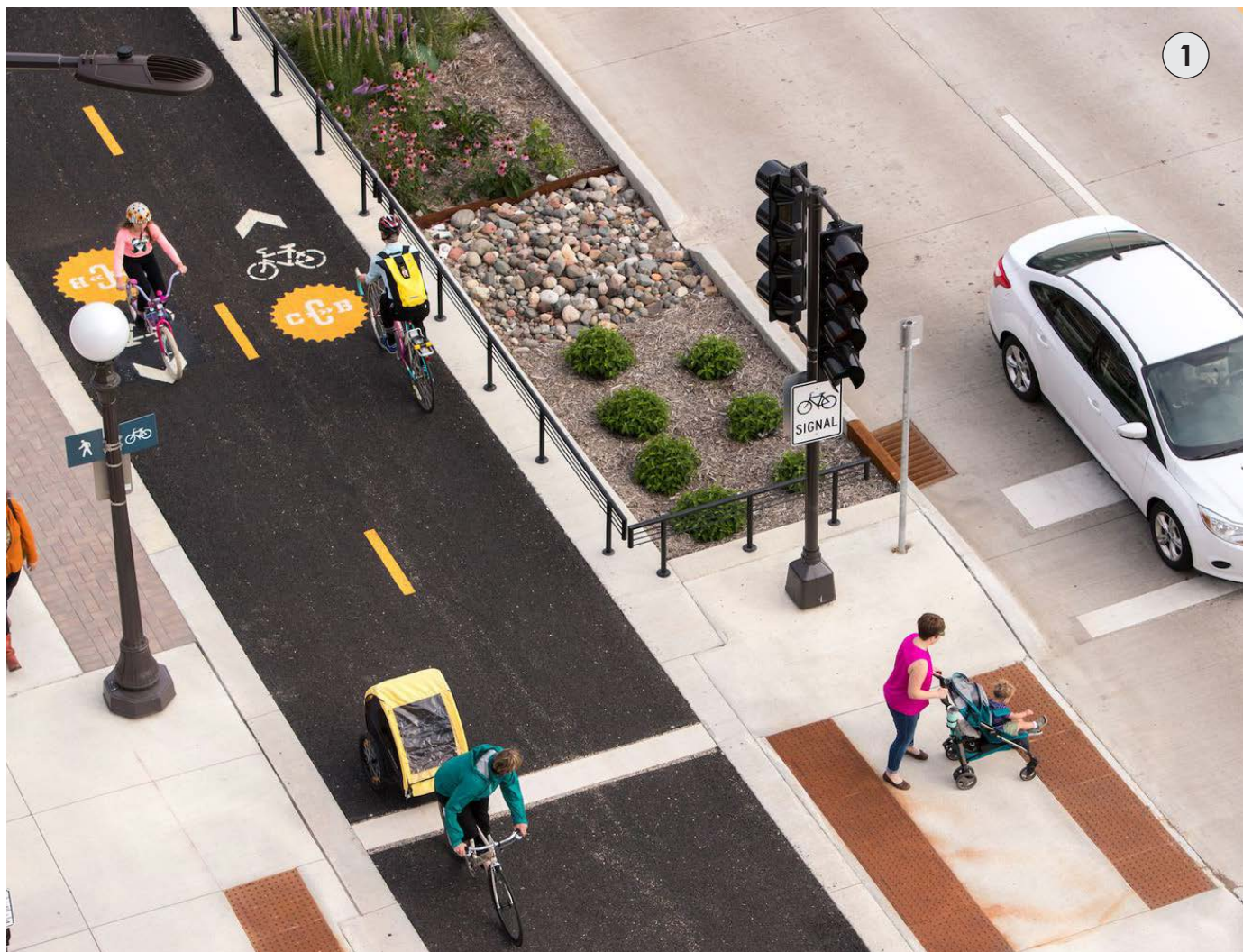


Figure 38. Universal Access precedent

- Raised intersections
- Provision of ramps with suitable gradients
- Push buttons
- Audible signals
- Increased green time
- Way-finding signage

8. Natural Areas:

- Guard rails on all river crossing bridges to prevent falling, when higher than 600mm from ground level
- All bridges must be the required width to cater for wheelchairs.
- A gradual slope or flat ground level bridge to allow for easy access
- Walkways, informal & formal to be constructed of materials that allow ease of access and movement.



Part B.

ATC Precinct Specific Development Guidelines

3. Precinct Guidelines

3.1. Precinct 1

Intended Character and Function

A **gateway precinct** at the south-western entrance to Stellenbosch and the ATC. In general, together with the Northern 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 major focus of formal and informal recreational and sport activities (some of which may serve the ATC and areas beyond) along the river corridor.

From a heritage perspective, it is identified as Character Area 1, with its distinguishing heritage features relating to its role as a **urban-rural transition** and **gateway** (western entry to Stellenbosch)

3.1.1. Heritage Guidelines

1. Maintain treed edge along Adam Tas Road.
2. Establish building setback conditions to maintain transitional landscape quality between urban and rural conditions.
3. Maintain views through towards the Hottentots Holland Mountains to the east based on a combination of setback and height controls.
4. Maintain visually permeable edge conditions.
5. Controls on signage to minimize visual clutter (e.g. no third-party signage)
6. Respect and acknowledge entrance to Klein Vredenburg.
7. Tree maintenance and planting plan.

3.1.2. Landscape and Public Realm Guidelines

Precinct 1 together with Precinct 2 form the gateway and entrance to the ATC project site. The vision is that this gateway is announced through materiality, planting and street furniture.

Guidelines:

1. Adam Tas Road is flanked by mature Stone Pines on one side (Figure 39). This creates a green frame with views eastwards towards the mountains. This is to be maintained based on a combination of setback and height controls.
2. Maintain the green edge conditions contrasting with hard built edge to the north and west. Maintain this transitional landscape quality between urban and rural conditions.
3. Maintain scenic envelope and associated long views towards the Hottentots Holland Mountains.
4. Maintain visually permeable edge conditions.
5. Tree planting where there are gaps, to maintain the framing aspect.
6. Completion of a tree maintenance and planting plan is required for all future development applications.
7. Railway park?



Figure 39. Precinct 1: Droe Dyke row of stone pines (Google Earth Street View Image (2021))

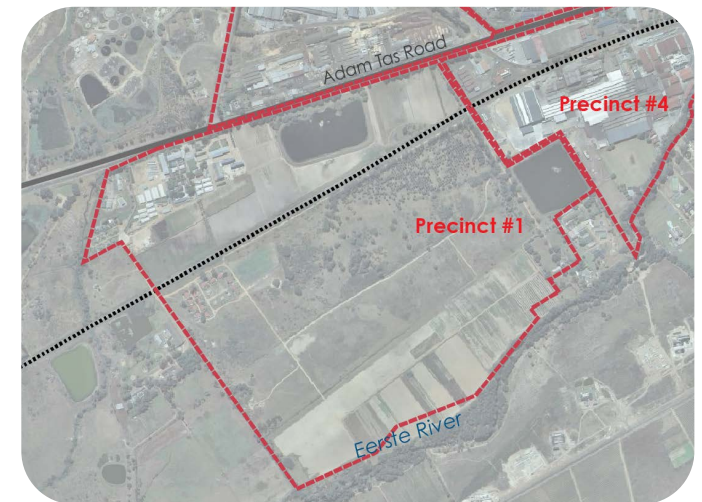
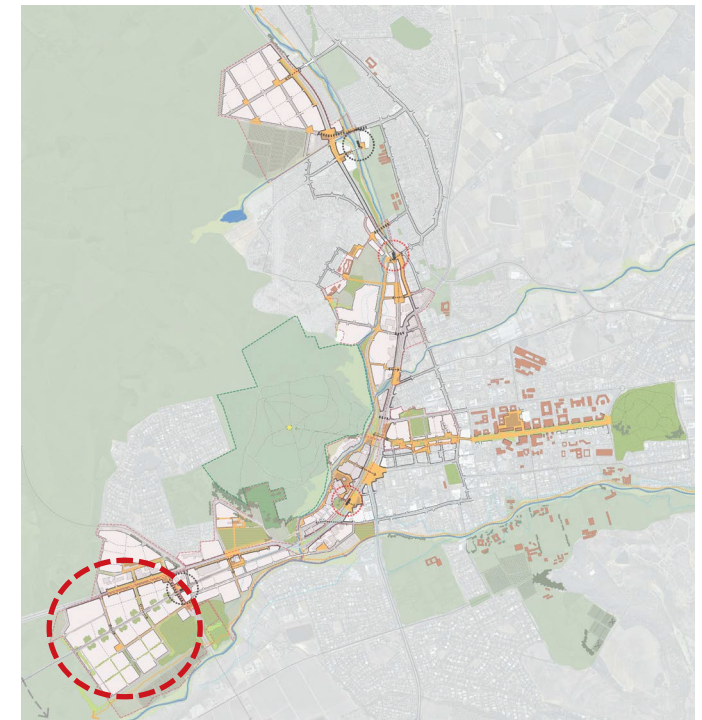


Figure 40. Precinct 1 location within the ATC and precinct boundary

3.1.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 1 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.1.3.1. Development Form and Character

1. The precinct is predominantly residential (including supporting facilities) with mixed use commercial and retail development located along the Adam Tas Road and in smaller pockets throughout the precinct.
2. A range of development typologies should be incorporated into the precinct and should include semi-detached units, row houses and multi storey apartment blocks.
3. Buildings must be located along the street edge taking on a courtyard or perimeter block form no matter the typology.
4. Apartment blocks should include private, internal, landscaped courtyards accommodating parking if necessary (see 2.2.5. Approach to Parking guidelines);
5. Building heights in Precinct 1 should range from 2 to 4 storeys. with the greatest height along Adam Tas Road and the lowest height closer to the Eerste Rivier.
6. The density ranges from low to high (100 - 150+du/ha)
7. High density (150+du/ha) development should be located on the parcels located along Adam Tas Road, with medium density (120 du/ha) on either side of the railway line. Parcels in the south on the precinct should be low density(100 du/ha).
8. The greatest height, density and commercial/retail activity must be concentrated along Adam Tas Road providing enclosure and activity.

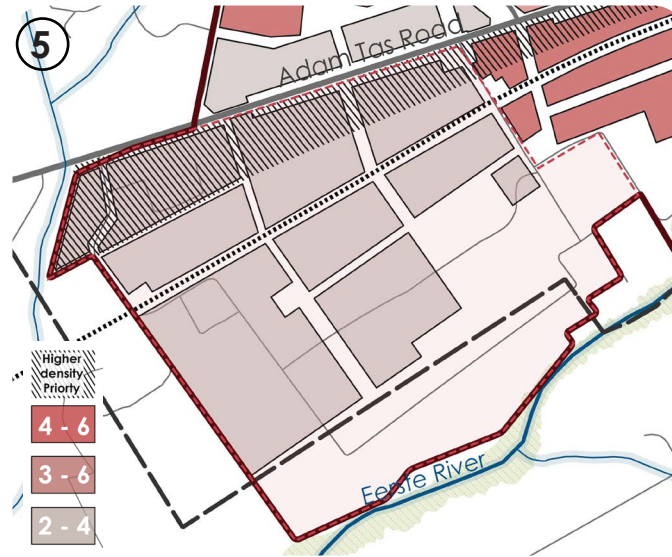


Figure 41. Precinct 1: Heights

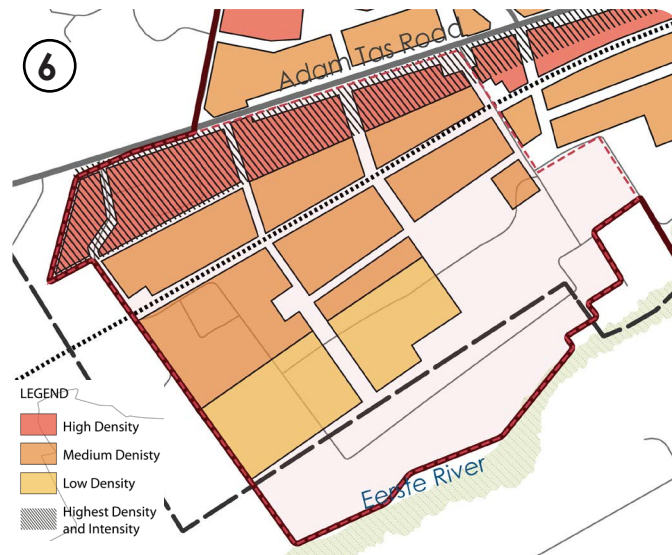


Figure 42. Precinct 1: Density and massing



Figure 43. 3 - 4 storey, mixed use apartment. Corner building frames a public space with activity on the ground floor (Drommedaris,Development)

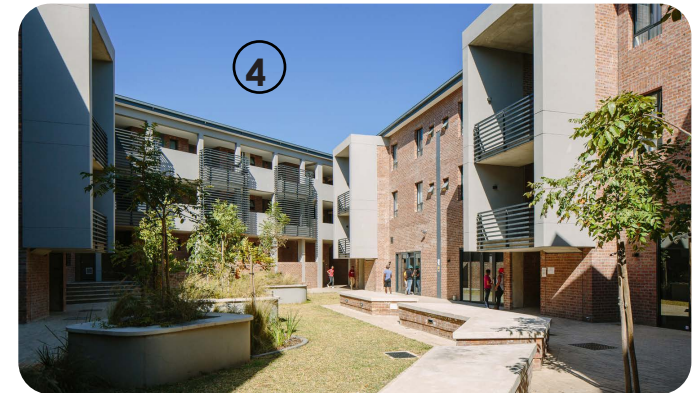


Figure 44. 3-4 storey perimeter block typology including landscape courtyard



Figure 45. 2 storey row-house, perimeter block typology (District Six, Jacupa)

3.1.3.2. Interface Qualities

9. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
10. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
11. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
12. Semi-detached and row houses can be set back a maximum of 5m from the street edge to accommodate parking in front of the building and change of use over time.
13. Ideally the residential setback should be no more than 2m from the street edge;
14. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street surrounding the space. Backs of properties should not abut public space.
15. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
16. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
17. Buildings fronting onto Adam Tas Road must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting to further define the street space. Some street parking may be included with the street section.

3.1.3.3. Precinct Specific Guidelines

18. Protect and minimise public accessibility to the rail reserve by locating private even abutting the reserve.
19. Create a safe pedestrian bridge across the rail reserve associated with the railway station. The design of the bridge should be contextually appropriate, elegant, using robust materials, accommodating NMT users. See Section 2.3.8 for bridging guidelines.
20. Public facilities supporting residents of the Precinct should be clustered with public space and other public facilities. Facilities requiring the highest accessibility should be located in associated with the station. (See Section 2.2.4)



Figure 46. Precinct 1: Framework

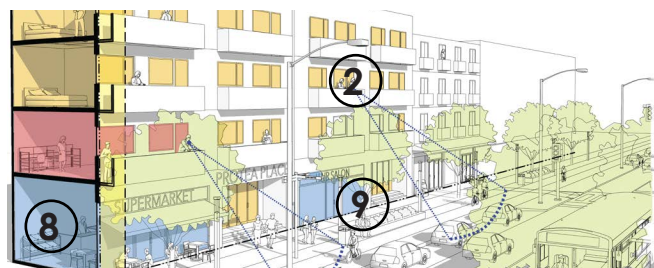


Figure 47. Mixed use interface along Adam Tas Road



Figure 48. Residential interface along Neighbourhood Street



Figure 49. Residential units with 5m setback accommodating small businesses with parking in front of building

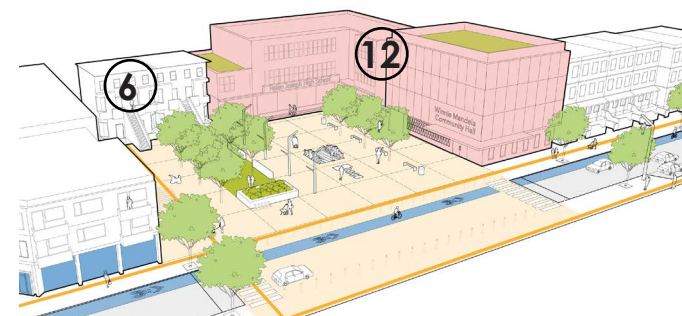


Figure 50. Clustered public facilities with public space in accessible location

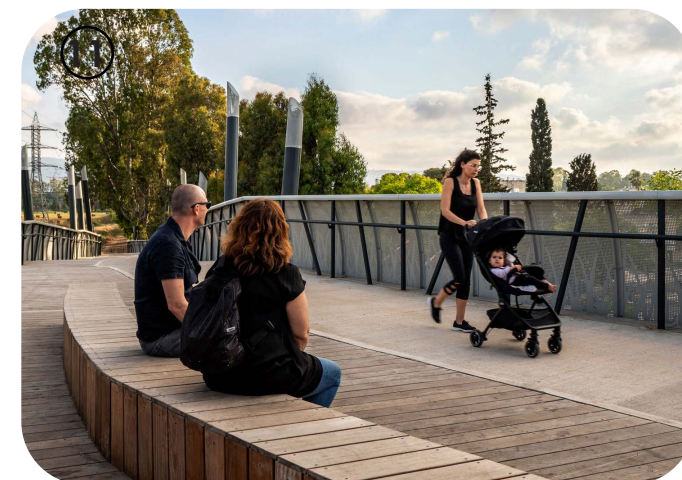


Figure 51. NMT bridge including seating and lighting - an extension of the public realm

3.2. Precinct 2

Intended Character and Function

A **mixed use commercial and retail precinct**, including housing, light industry, workshops and entrepreneurial spaces. Some adaptive reuse of old industrial structures.

From a heritage perspective, it is identified as Character Area 2, with its distinguishing heritage features relating to **Timber processing** (the sawmill from the early 20th century).

3.2.1. Heritage Guidelines

1. Retention and adaptive reuse of core grouping (C).
2. Retain the wall along Adam Tas Road to as great an extent as possible with limited points of entry.
3. Maintain the existing line of trees.
4. Maintain hard building edge along Adam Tas Road with a limited building line with 2 storey height control on buildings immediately flanking the site.
5. Maintain the manufacturing and light industrial character of the area as a major component of a mixed-use precinct.
6. Maintain the built form character in terms of figure ground relationships.



Figure 53. Precinct 2: View of sawmill building & wall (Google Earth Street View Image (2021))

3.2.2. Landscape and Public Realm Guidelines

Precinct 2 together with Precinct 1 form the gateway and entrance to the ATC project site. The vision is that this gateway is announced through materiality, planting and street furniture.

Guidelines:

1. Maintain the existing line of trees to soften the wall line of the Sawmill (see Figure 52).
2. Additional trees of the same species to be added where trees missing, to create a continuous avenue of trees.
3. Maintain corner & central median planting, using hardy water wise plant species to announce the entrance to the precinct.
4. promote additional accent planting (eg aloes) along boundary walls as an option.
5. Use SUDS principles (Section 2.4.3) where possible.



Figure 52. Precinct 2: Sawmill wall tree lined edge (Google Earth Street View Image (2021))

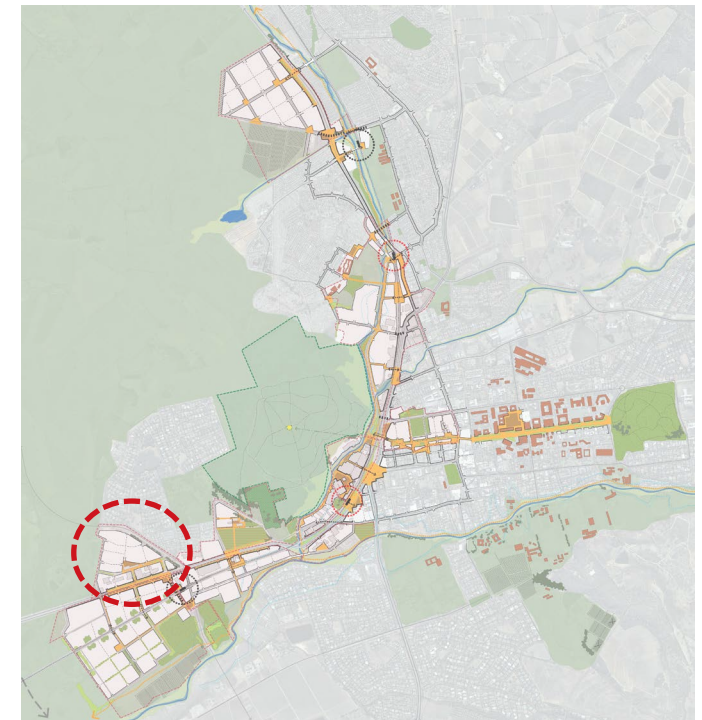


Figure 54. Precinct 2 location within the ATC and precinct boundary

3.2.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 2 apply to development typologies, height, density, land use mix, interface and frontage. These are unpacked below.

3.2.3.1. Development Form and Character

1. The precinct is mixed use including light industry accommodated in retrofitted historical buildings along Adam Tas Road. Where possible retain existing structures and or reference the grain of previous development in the form and scale of new buildings.
2. Explore options in the building material palette and design language to reference the previous timber processing and industrial related activities in the precinct.
3. A range of development typologies should be incorporated into the precinct and should include multi storey apartment blocks and mixed use commercial buildings taking on a courtyard or perimeter block form.
4. Mixed-use, light industry and makers spaces should be accommodated within the adapted, core grouping of existing warehouse buildings
5. Development blocks should include private, internal, landscaped courtyards accommodating parking (see 2.2.5. Approach to Parking guidelines);
6. Building heights in Precinct 2 should range from 2 to 6 storeys. The core zone of existing heritage buildings along Adam Tas Road should have a maximum height of 2 storeys.
7. The density ranges from medium to high (120 - 150+du/ha)
- 8) High density (150+du/ha) development should be located on the parcels located in the north of the precinct away from Adam Tas Road, with medium density (120 du/ha) along Adam Tas road on parcels where existing old industrial structures will be retrofitted.

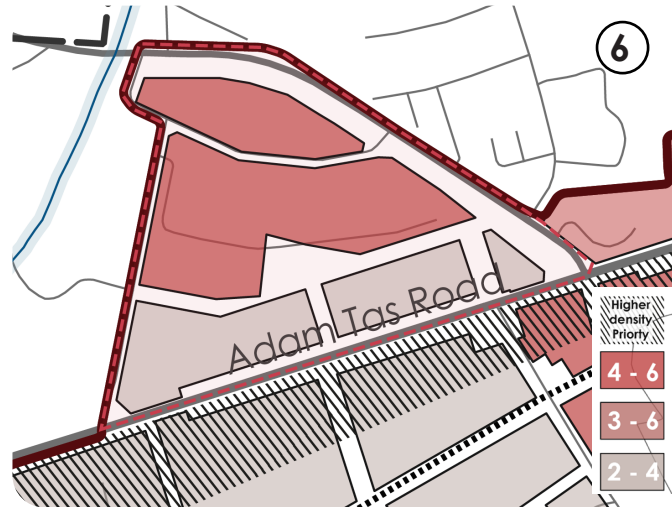


Figure 56. Precinct 2 Heights

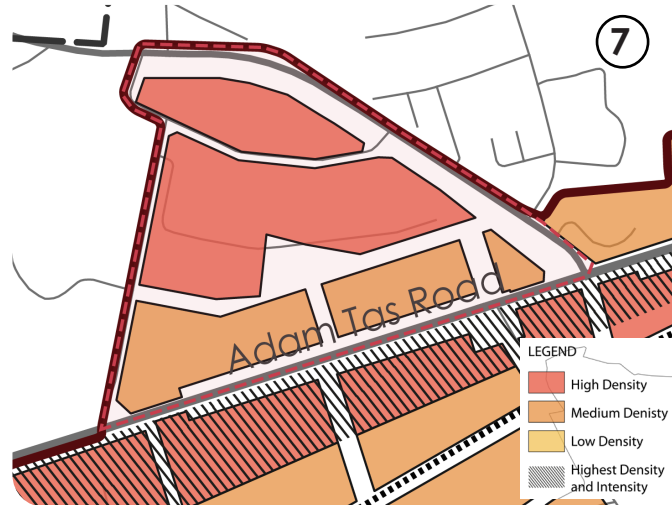


Figure 55. Precinct 2 Density and Massing



3.2.3.2. Interface Qualities

9. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
10. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
11. Courtyard typology buildings should have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
12. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.
13. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
14. Buildings fronting onto Adam Tas Road must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting to further define the street space. Some street parking may be included with the street section.
15. The frontage of buildings onto Devon Valley Road must create a positive interface between the new development and existing residential. Level changes, stairs and low walls create a gradation between public and private. Included in the wide road reserve should be a flexible zone for parking, SUDS and a generous NMT pathway.

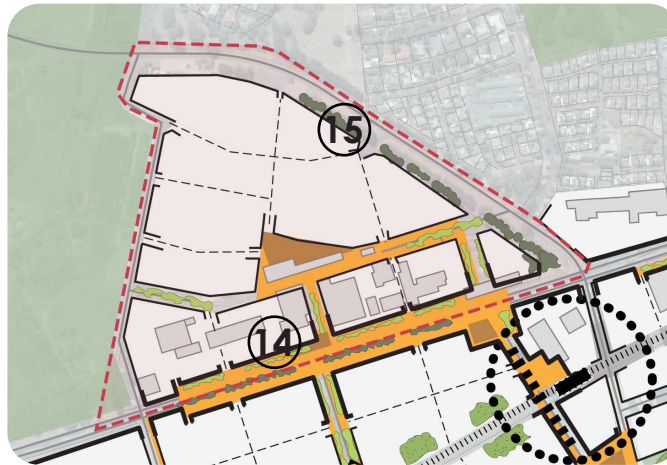
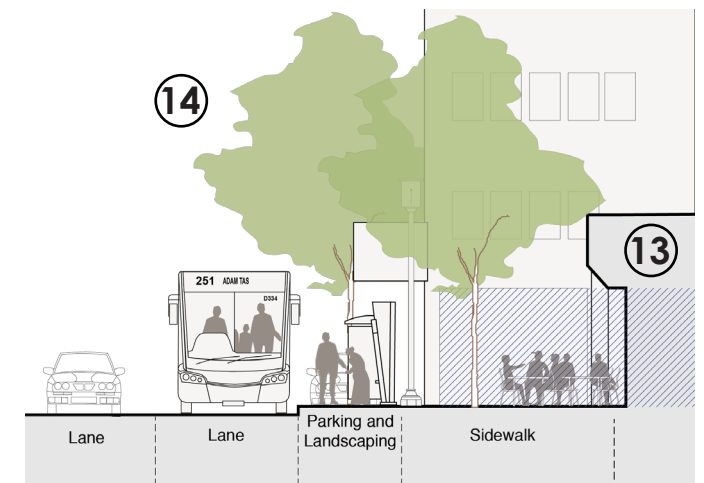
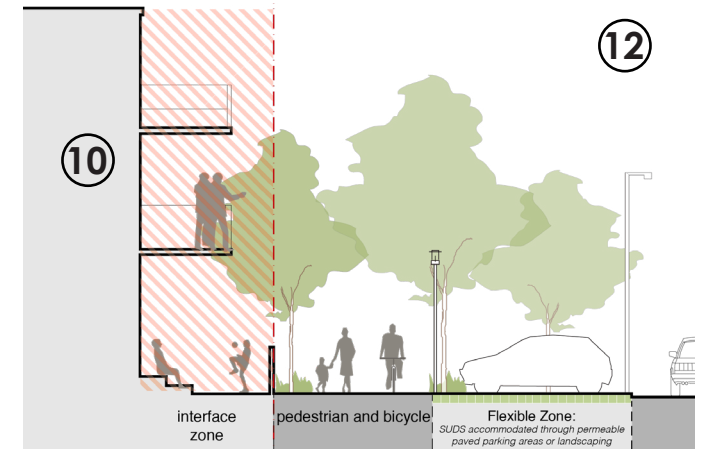


Figure 57. Precinct 2: Framework



3.3. Precinct 3

Intended Character and Function

A largely institutional use precinct comprising the University of Stellenbosch Business School and Oude Libertas theatre complex, together with the cemetery and historic vineyard abutting Adam Tas Road.

From a heritage perspective, it is identified as Character Area 3 with its distinguishing heritage features relating to its role as **historical set piece**, with the vineyard forecourt, cemetery and Bosman's Crossing functioning as areas of **public memory, reflection, passive recreation, and historical river crossing**.

3.3.1. Heritage Guidelines

1. Maintain green forecourt to Oude Libertas; no new buildings to be permitted in this zone.
2. New buildings to be located behind the line established by the Oude Libertas complex and homestead.
3. New interventions must not visually overwhelm the complex.
4. New interventions to be complementary to the historical cultural and educational role of Oude Libertas.
5. Maintain the open access and parkland nature of the cemetery with minimal edge treatments.
6. Opportunities for memorialization as part of the public space realm.

3.3.2. Landscape and Public Realm Guidelines

Guidelines:

1. Maintain the vineyard foreground of Oude Libertas and the rows of mature oak trees which create the foreground to the site.
2. The visual axis on Adam Tas road on approach to the cemetery to be enhanced.
3. The Cemetery is of historical & social significance and contributes substantially to the parkland setting, and is currently unsafe & degraded. It needs to be upgraded to increase the amenity and heritage value of the park. The open access and parkland nature of the cemetery should be maintained with minimal edge treatments (Refer to Section 2.4.5 Special Green Spaces – Cemetery / Memorial Park for more detail).
4. Maintain the heritage value of historical patterns of access and river crossing.

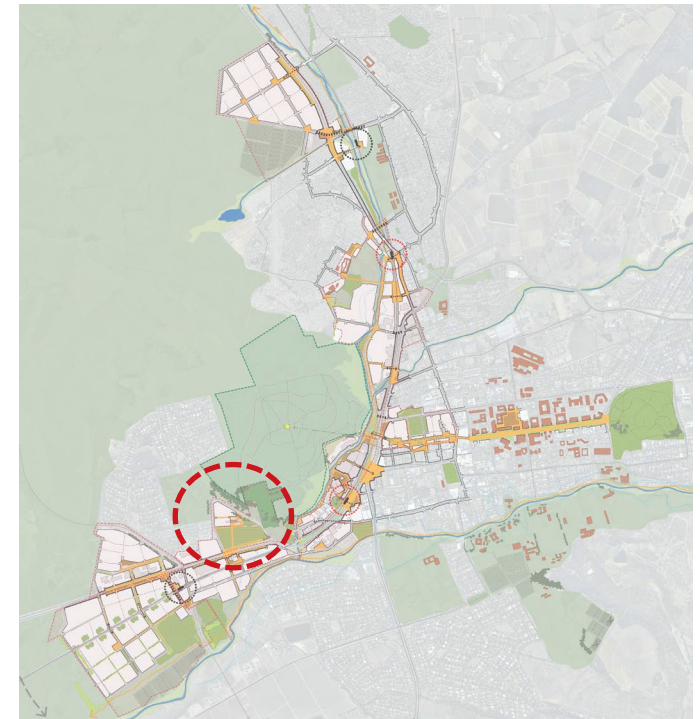


Figure 58. Precinct 3: View of tree lined streets at Oude Libertas (Google Earth Street View Image (2021))



Figure 59. Precinct 3: View of tree lined streets at Oude Libertas (Google Earth Street View Image (2021))

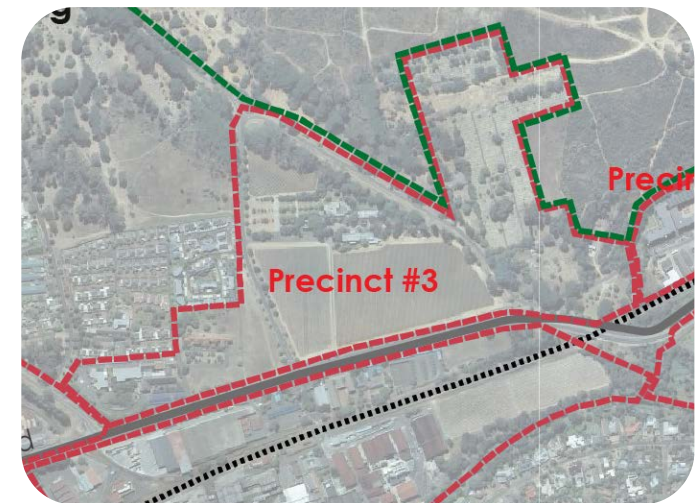


Figure 60. Precinct 3 location within the ATC and precinct boundary



Cemetery / Memorial Park Guidelines:

At present the cemetery is neglected, unkempt and is an unsafe place to visit.

This opens up many opportunities for improvement, which can have environmental, architectural and cultural benefits, which could change the way we relate not only to the past but also to the present. Urban cemetery planning is a way for cities to pay respect to history, while preparing for the future.

- 5. Create a landscaped forecourt / entrance to the cemetery.
- 6. Restoring the graves, particularly any of historical interest
- 7. Restoring the stark & neglected landscape – into meditative rooms / spaces and around the existing grave stones.
- 8. Creating a memorial space that is safe and attractive.
- 9. Creating meditative spaces with memorial benches that can be in an enclosed landscaped space or placed with a view.

- 10. Design a memorial wall / structure for storing ashes with memorial plaques.
- 11. Create safe pathways that encourage passive surveillance.
- 12. Cemeteries tell stories of the area – this should be embellished through the landscape and possibly interpretive signage.
- 13. Create a user-friendly safe park-like landscape, that becomes a connector green space between the residential area, Papegaaiberg and the River Walk.
- 14. Tree maintenance plan required.

Lighting:

- 15. Higher level pedestrian lighting at the entrance to announce the entrance and to create a safe well-lit space.
- 16. Low level lighting along pathways and in and around the gravestones and memorial areas to create mood.
- 17. Uplighting of larger trees to create light and mood



Figure 61. Memorial Park precedent

3.3.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 3 apply to development typologies, height, density, land use mix, interface and frontage. These are unpacked below.

3.3.3.1. Development Form and Character

1. The precinct is predominantly institutional with some mixed use commercial and retail development located along the Adam Tas Road;
2. Institutional buildings should be multi-storey taking on an urban form accommodating a mix of uses;
3. Buildings must be located along the street edge of the block taking on a courtyard or perimeter block form including internal, landscaped courtyards accommodating parking if necessary (see 2.2.5. Approach to Parking guidelines);
4. Building heights in Precinct 3 should range from 3 to 6 storeys. with the greatest height along Adam Tas Road;
5. The density of the new parcels is medium (120du/ha)
6. The greatest height, density and commercial and retail activity must be concentrated along Adam Tas Road providing enclosure and activity;
7. Sensitive integration between existing buildings and new development should be considered while clearly defining the difference between the two.

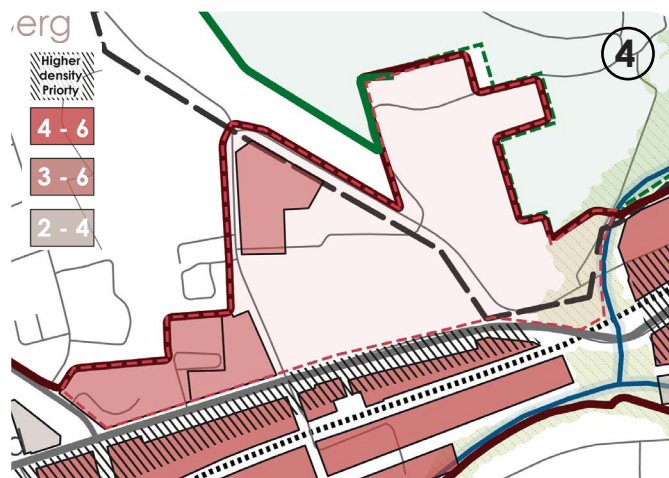


Figure 62. Precinct 3: Building Heights

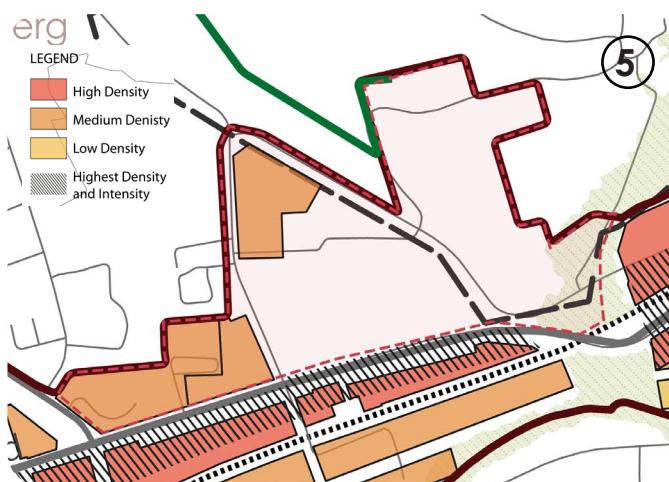
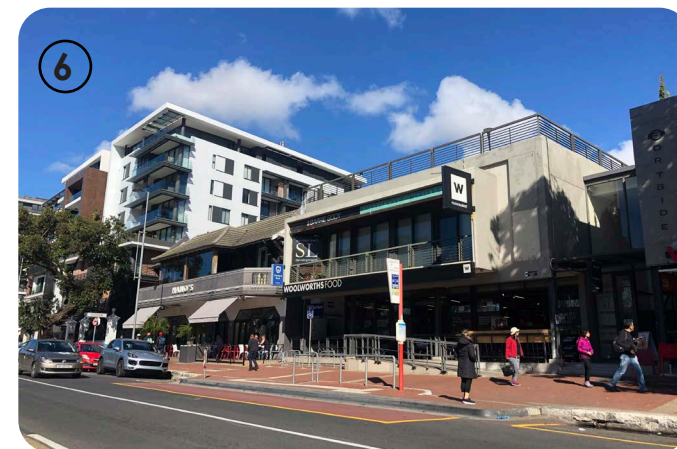
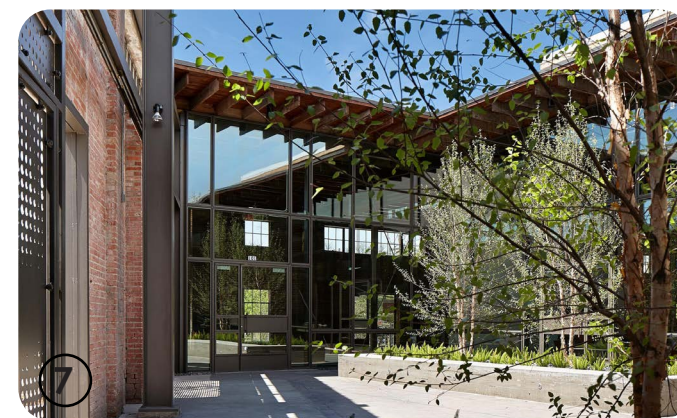


Figure 63. Precinct 3: Density and Massing



3.3.3.2. Interface Qualities

8. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
9. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
10. Perimeter buildings should have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
11. Ensure public open space is surveilled and safe by including overlooking features, front doors and a public street enclosing the space. Backs of properties should not abut public space.
12. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
13. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
14. Buildings fronting onto Adam Tas Road must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting to further define the street space.
15. Institutional buildings should have a direct physical and visual relationship with the street or public space. Avoid fences and boundary walls, rather creating a boundary with the building itself (see [Section 2.2.4.](#) for Public Facility guidelines)

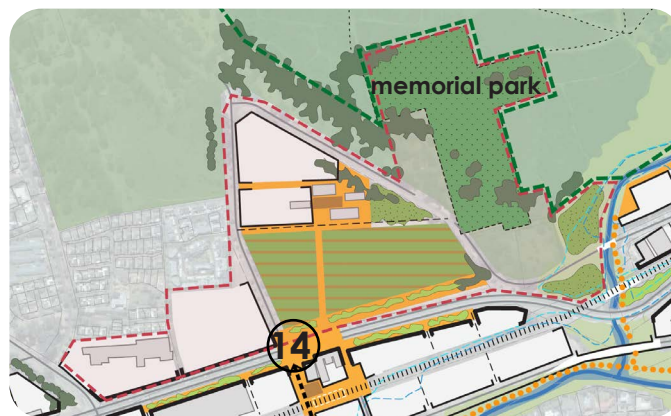
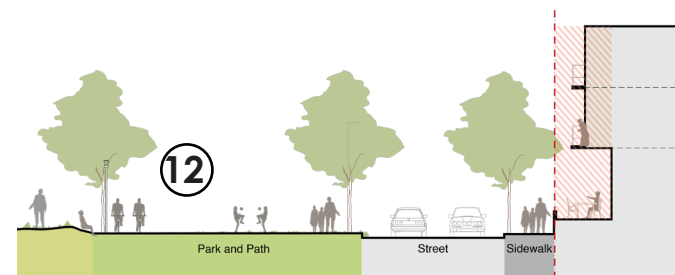
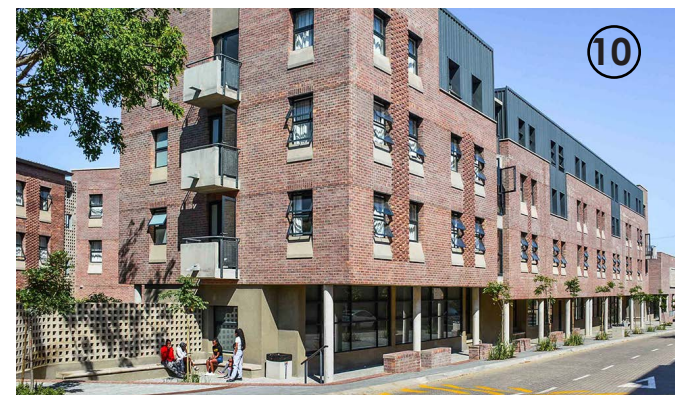
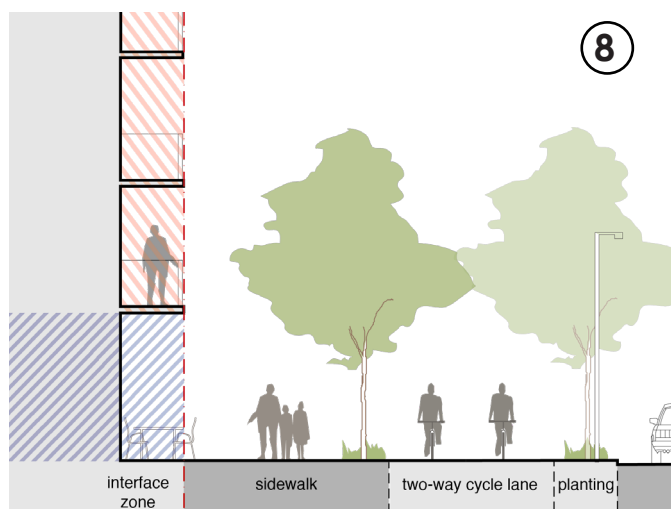


Figure 64. Precinct 3: Framework



3.4. Precinct 4

Intended Character and Function

A mixed use medium to high density precinct including residential and commercial/retail activity.

From a heritage perspective, it is identified as Character Area 4: Wine processing (Stellenbosch Farmers Winery mid to late 20th century)

3.4.1. Heritage Guidelines

1. Maintain edge treatment along Adam in terms of pillars, visually permeable panels and planting, and the interface with the Cape Revival complex including the rhythm of gable ends, elaborate gateways and neo classical central entrance piece.
2. Retain the Cape Revival complex facing onto Adam Tas with a range of adaptive reuse options accommodated.
3. Soft edge treatment along entrance road to Klein Vredenburg to screen hard parking areas and loading areas.
4. Consider opportunities for a continuous walkway adjacent to the Eerste River and its role as a seam in linking precincts as part of a continuous public realm including the recreational role of the Distell Cricket Club

3.4.2. Landscape and Public Realm Guidelines

Guidelines:

1. Maintain the existing sequence of hard and soft edge treatments along Adam Tas, where Distell provides a hard agro-industrial edge in contrast to the green forecourt to the Oude Libertas to the west.
2. Create a soft edge treatment along entrance road to Klein Vredenburg to screen hard parking areas and loading areas.
3. Create a continuous landscaped walkway adjacent to the Eerste River to link precincts as part of a continuous public realm including the recreational role of the Distell Cricket Club.
4. Continuous walkway adjacent to the river to provide and function as an ecological corridor connecting natural spaces.

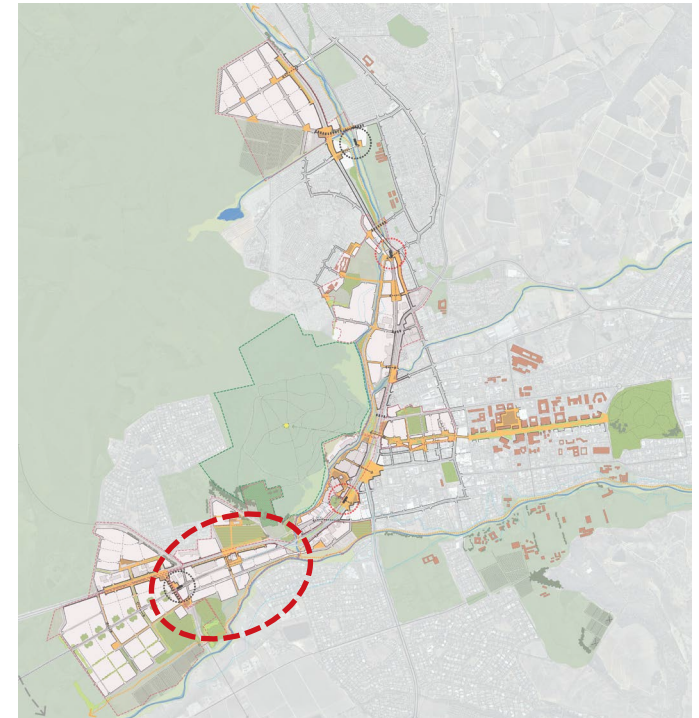


Figure 65. Precinct 4: View of Distell entrance (Google Earth Street View Image (2021))

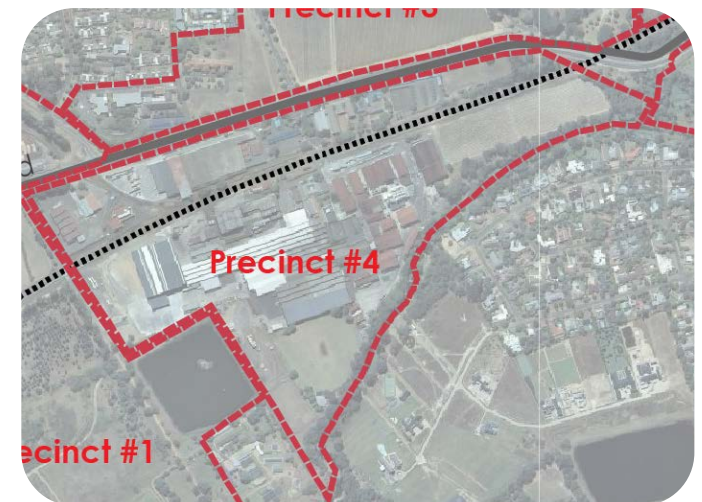


Figure 66. Precinct 4 location within the ATC and precinct boundary

3.4.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 4 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.4.3.1. Development Form and Character

1. The precinct is mixed use with commercial and retail development concentrated along the Adam Tas Road.
2. The dominant building typology is a courtyard, perimeter block with buildings located along the street edge creating an internal courtyard
3. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking if necessary (see 2.2.5. Approach to Parking guidelines);
4. Building heights in Precinct 4 should range from 4 to 6 storeys with the greatest height along Adam Tas Road;
5. Precinct 4 is medium to high density (120 du/ha to 150 du/ha)
6. The greatest height, density and commercial/retail activity must be concentrated along Adam Tas Road providing enclosure and activity.
7. Reinforce the prominence of corner sites through variation in massing.

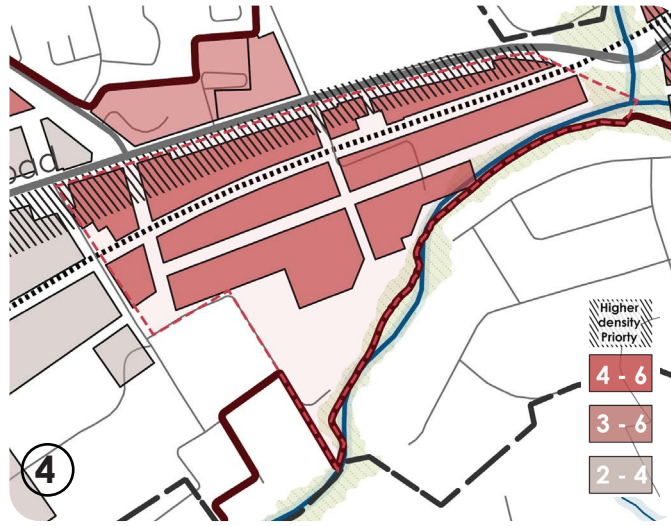


Figure 67. Precinct 4: Building Heights

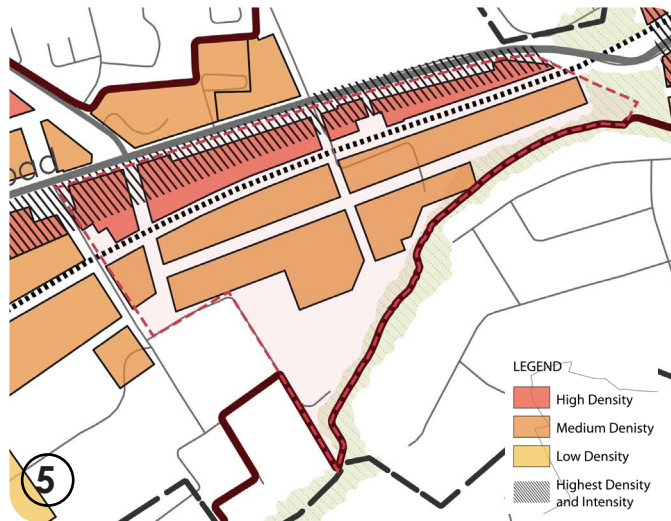


Figure 68. Precinct 4: Density



3.4.3.2. Interface Qualities

8. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
9. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
10. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
11. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.
12. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate.
13. Create soft edges along the river through parks and pathways.
14. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
15. Buildings fronting onto Adam Tas Road must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting to further define the street space. Some street parking may be included with the street section
16. Connect building activities with the street by designing sidewalks and openings in building fronts to accommodate spill-out from retail and restaurants;
17. Scale buildings to people with canopies and balconies where buildings are on street front and low walls where buildings are setback from the street.

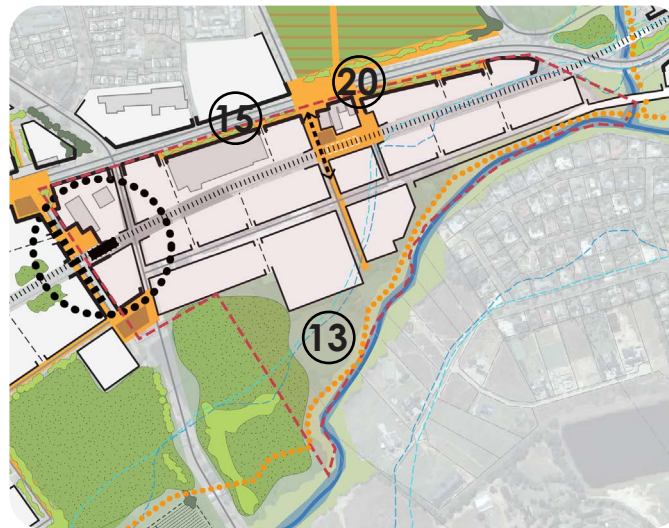
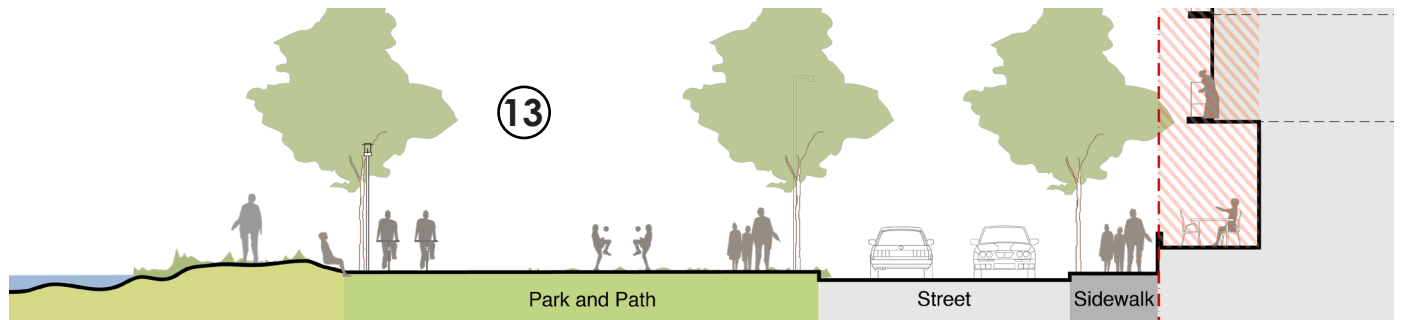


Figure 69. Precinct 4: Framework



3.4.3.3. Precinct Specific Guidelines

18. Protect and minimise public accessibility to the rail reserve by locating private erven abutting the reserve.
19. Create safe pedestrian bridge across the rail reserve associated with public space and or adjacent building. The design of the bridge should be contextually appropriate, elegant using robust materials, accommodating NMT users. See Section 2.3.8 for bridging guidelines.
20. Higher order public facility should be located along the Adam Tas Road and associated with a public space and NMT rail bridge crossing.

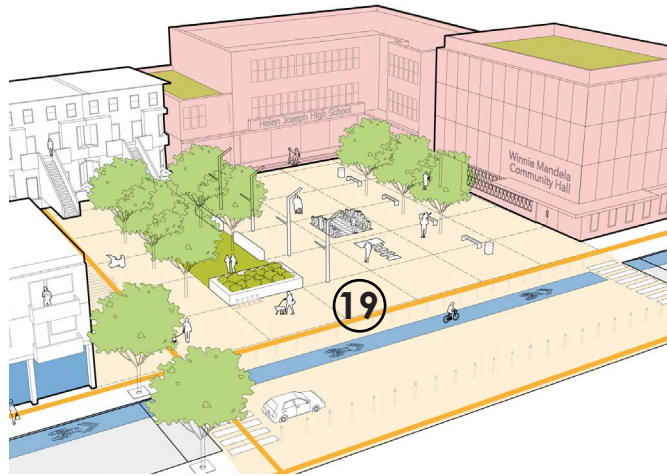


Figure 70. Clustered public facilities with central public space in accessible location connected to NMT



Figure 72. Aerial of private housing facing onto rail reserve

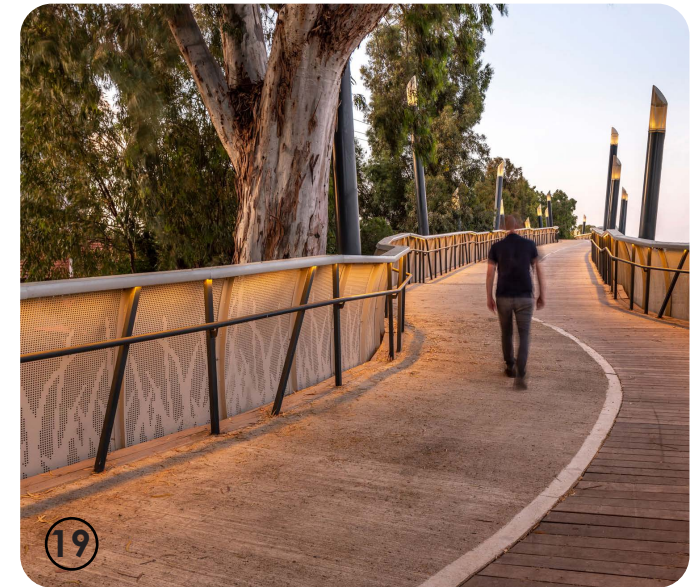


Figure 71. Safe and well designed pedestrian bridge

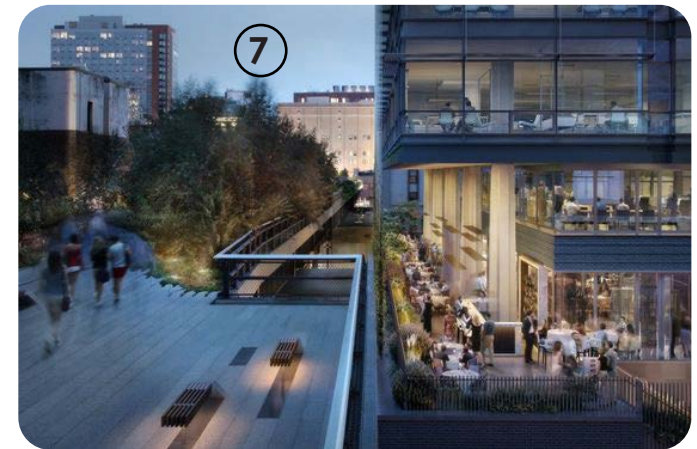


Figure 73. Variations in massing and height

3.5. Precinct 5

Intended Character and Function

A mixed use medium to high density precinct including residential and commercial/retail activity with sensitive incorporation of the Rupert museum and vineyards.

From a heritage perspective, it is identified as Character Area 5, with its distinguishing heritage features relating to its interface with the historic town core from the Dorp Street point of entry.

3.5.1. Heritage Guidelines

1. Maintain green forecourt to the Rupert Museum and its landmark qualities.
2. Consider the opportunities for a continuous landscape walkway adjacent to the Eerste River and the role of this river corridor as a seam in linking precincts associated with the river. Role of Eerste River as a major structuring element of the historic core.



Figure 74. Precinct 5: Gateway entrance to historic core of Stellenbosch (Google Earth Street View Image (2021))

3.5.2. Landscape and Public Realm Guidelines

Guidelines:

1. Opportunity for the integration of a Gateway Park with a vineyard heritage theme.
2. Use of a mix of 'heritage' and new 'heritage' planting at these gateway points as an introduction to Stellenbosch.
3. Edges to be softened. Increased tree planting where there are open spaces. Particularly along the edge of Agrimark.
4. Parking areas to be softened with tree planting.
5. SUDS design principles (Section 2.4.3) to be incorporated.
6. Maintain green forecourt and vineyard to the Rupert Museum.
7. Create a continuous landscaped walkway adjacent to the Eerste River, as a recreational river corridor linking precincts.

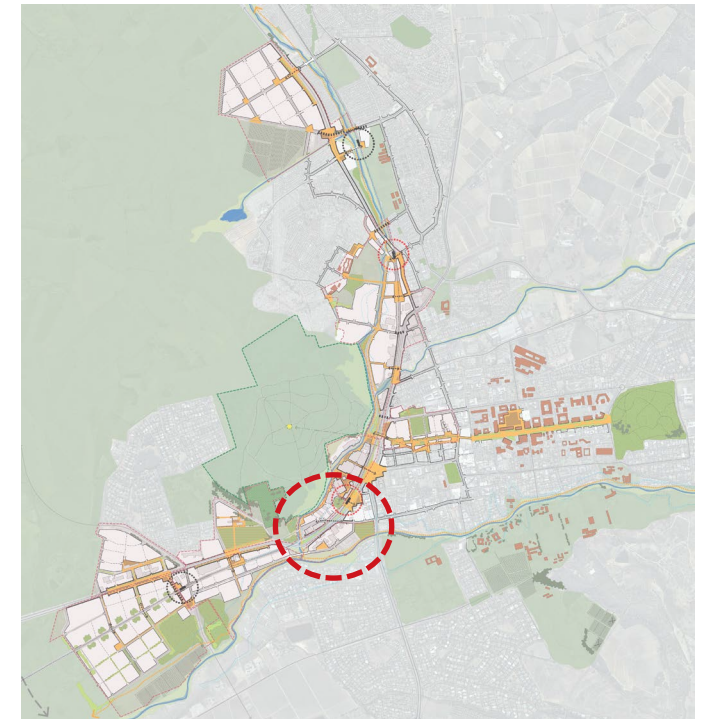


Figure 75. Precinct 5 location within the ATC and precinct boundary

3.5.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 5 apply to development typologies, height, density, land use mix, interface and frontage. These are unpacked below.

3.5.3.1. Development Form and Character

1. The precinct is with mixed use with commercial and retail development concentrated along the Adam Tas Road.
2. A range of development typologies should be incorporated into the precinct including semi-detached units, row houses and multi storey apartment blocks.
3. The dominant building typology is a courtyard, perimeter block with buildings located along the street edge creating internal courtyards;
4. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking if necessary (see 2.2.5. Approach to Parking guidelines);
5. Building heights in Precinct 5 should range from 2 to 6 storeys. with the greatest height along Adam Tas Road;
6. The density in Precinct 5 ranges from low to high density (100 du/ha to 150 du/ha)
7. The greatest height, density and commercial and retail activity must be concentrated along Adam Tas Road providing enclosure and activity to the street.

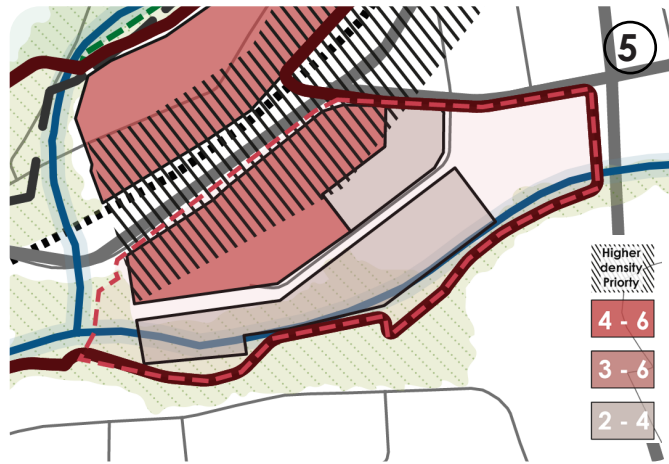


Figure 76. Precinct 5: Building Heights

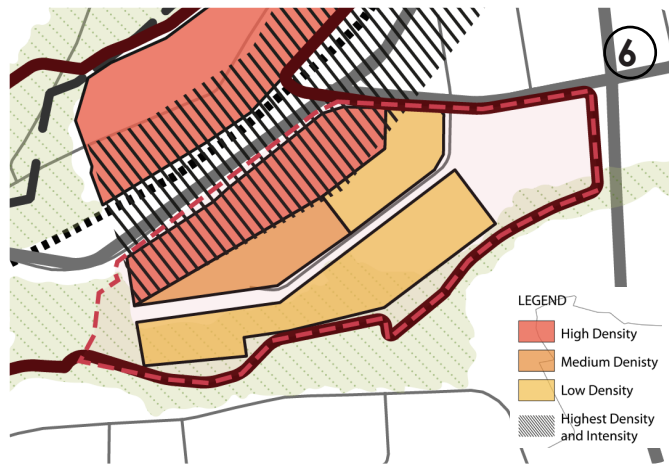


Figure 77. Precinct 5: Density



3.5.3.2. Interface Qualities

8. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
9. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
10. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
11. Ideally the residential setback (Semi-detached and row houses) should be no more than 2m from the street edge;
12. Ensure public open space is surveilled and safe by including overlooking features, front doors and a public street enclosing the space (parks, riverine corridor and vineyards). Backs of properties should not abut public space.
13. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate while maintaining views.
14. Create soft edges along the river through a linear park with SUDS and pathways.
15. Activate the ground floor with front doors, commercial, retail, food and beverage uses along primary routes.
16. Buildings fronting onto Adam Tas Road must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting to further define the street space. Some street parking may be included with the street section.
17. Buildings surrounding the public square should front directly onto the space with ground floor spill out activity and building entrances directly off the square. Vehicular access is taken from the rear of the property.

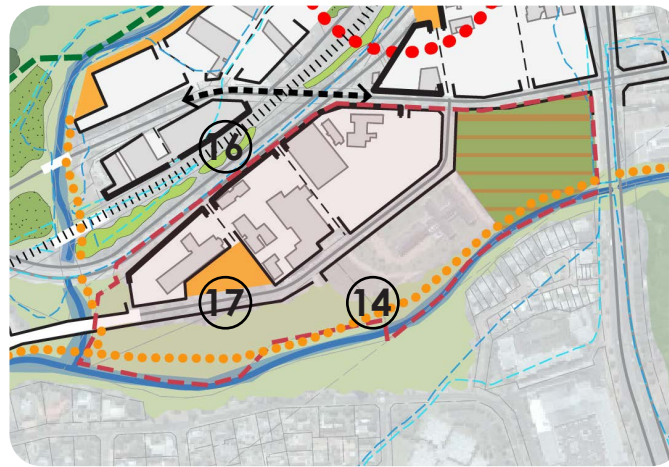
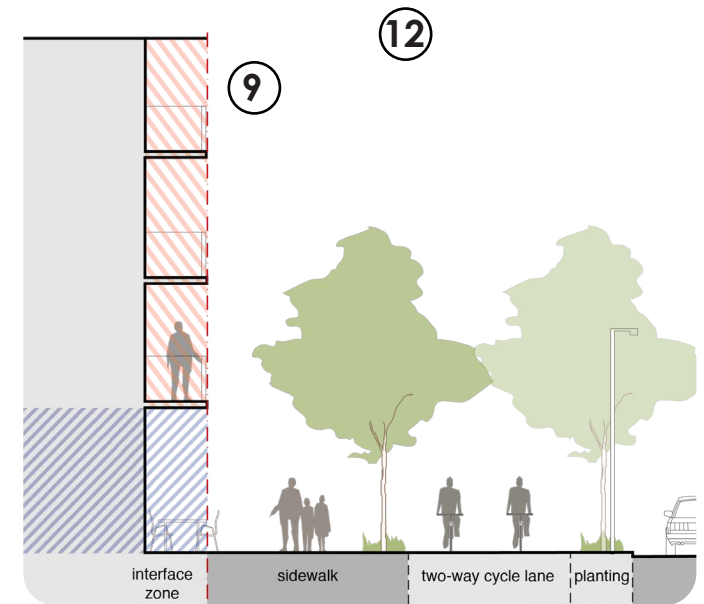
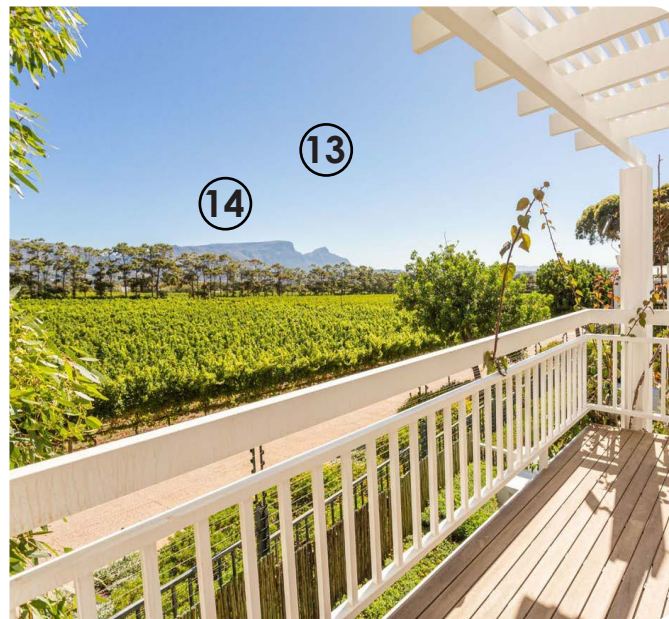
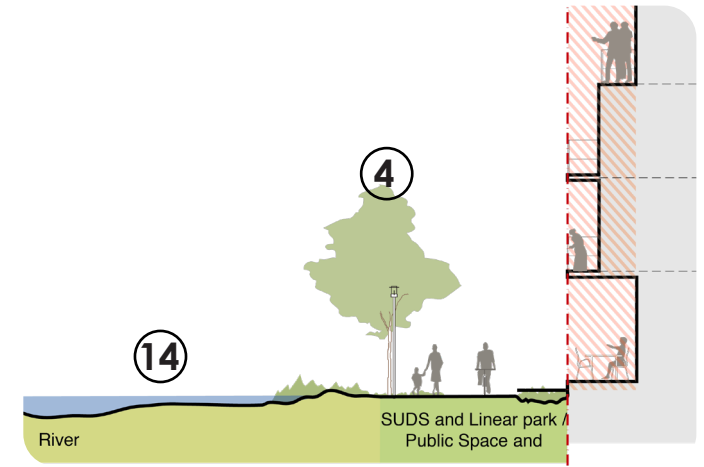


Figure 78. Precinct 5: Framework



3.6. Precinct 6

Intended Character and Function

A mixed use medium to high density precinct including residential and commercial/retail activity with sensitive incorporation and adaptive re-use of historic structures.

From a heritage perspective, it is identified as Character Area 6, with its distinguishing heritage features relating to **brandy production** (early to late 20th century) and the **historical millstream network** (Oude Molen).

3.6.1. Heritage Guidelines

1. Retention of views towards the Papegaaiberg. Integrate the riverine corridor with a pedestrian linkages and opportunities for access into the Papegaaiberg, particularly near Bosman's Crossing
2. Retention of the historic core grouping and associated spaces with their integration into a public space network (diagram below)
3. Extension of Bosman's Crossing and Distillery Road as a linking or binding element as part of the street network though the corridor (see diagram below)
4. Two stories on ATC retaining views towards the Papegaaiberg with higher density along the river (see Figure 80 below).

5. Continue good precedent at Bosman's Crossing with a residential apartment urban typology adjacent to the river, sequencing of open and close spaces and mix of uses particularly light manufacturing/artisanal activity, e.g. foundry and furniture making.

3.6.2. Landscape and Public Realm Guidelines

Guidelines:

1. The tight linear corridor comprising the river, road network, railway, industrial buildings, and mountain edge allows for sensitive incorporation of landscape elements to link the river to the mountain.
2. Integrate the riverine public corridor with pedestrian linkages
3. Open space to emphasize entrance to Bosmans Crossing in form of a 'pocket park' or other landscaped feature.
4. Proposed access point to Papegaaiberg near Bosmans Crossing (Refer to Section 2.4.1).
5. Create & maintain the sequence of hard and soft spaces; soft green crossing, hard built edges; Oude Molen forecourt.
6. Retain views towards Papegaaiberg backdrop.

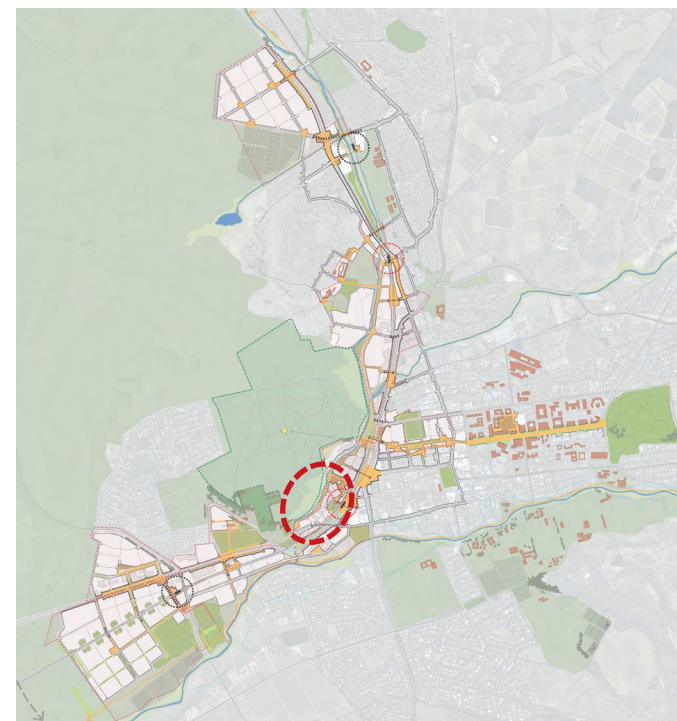
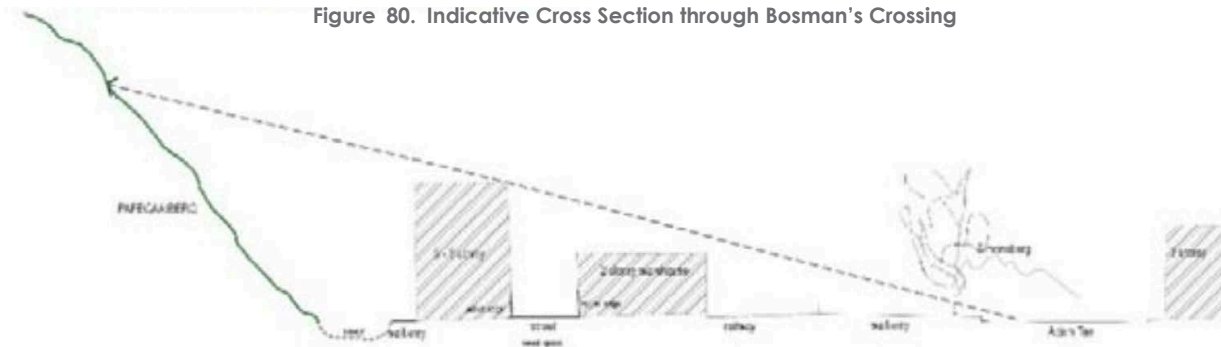


Figure 79. Precinct 6 location within the ATC and precinct boundary

Figure 80. Indicative Cross Section through Bosman's Crossing



3.6.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 6 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.6.3.1. Development Form and Character

1. The precinct is mixed use, high density (150du/ha).
2. Building heights in Precinct 6 should range from 4 to 6 storeys.
3. The dominant building typology a courtyard, perimeter block with buildings located along the street edge creating an internal courtyard
4. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking (see 2.2.5. Approach to Parking guidelines);
5. Existing buildings to be adapted to accommodate new uses.

3.6.3.2. Interface Qualities

6. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
7. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
8. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
9. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.

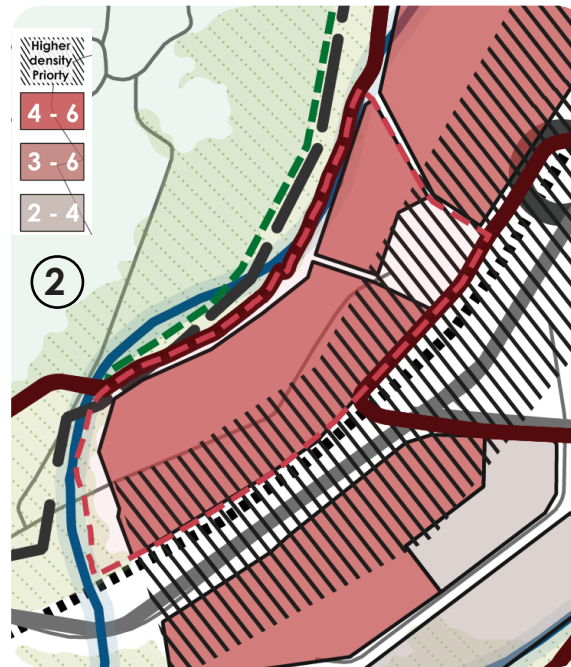


Figure 81. Precinct 6: Building Heights

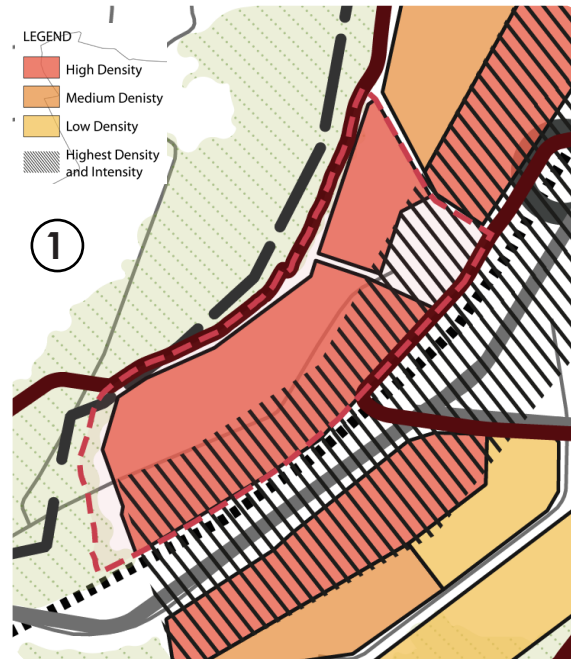
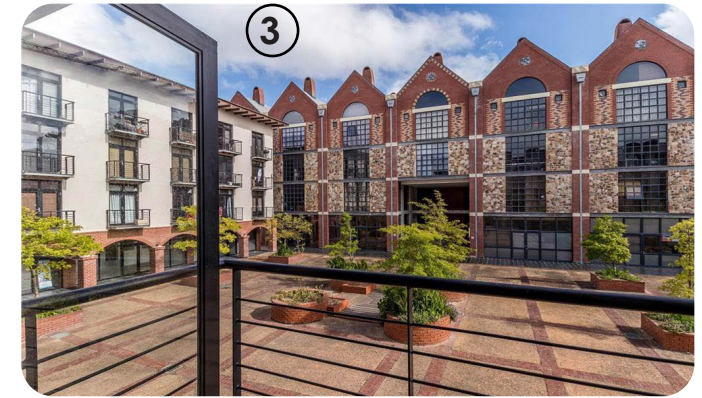


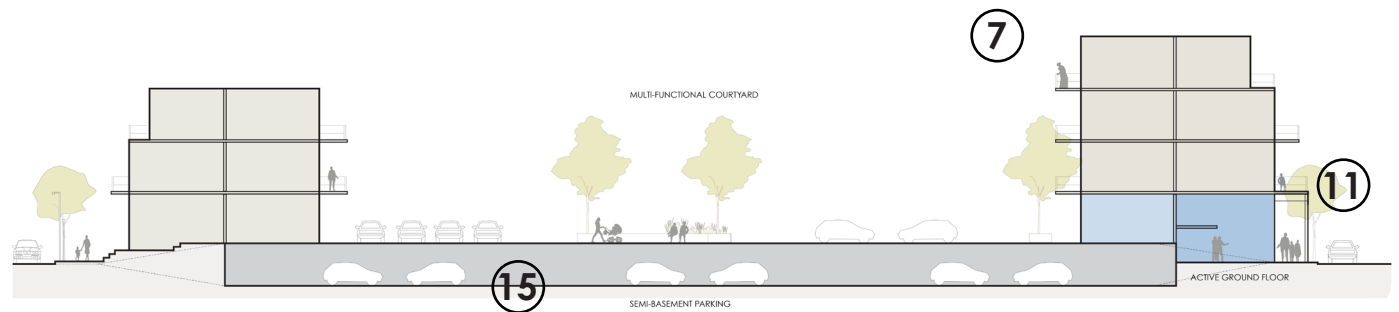
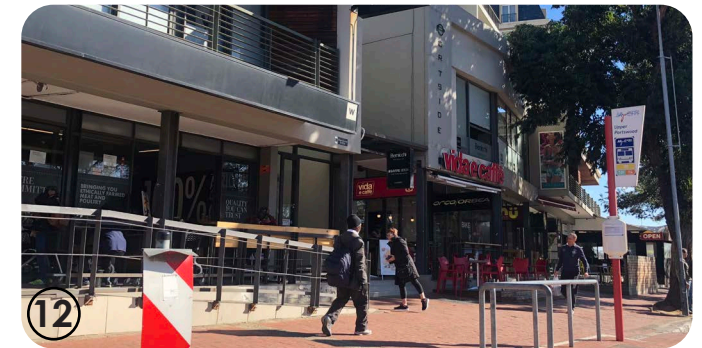
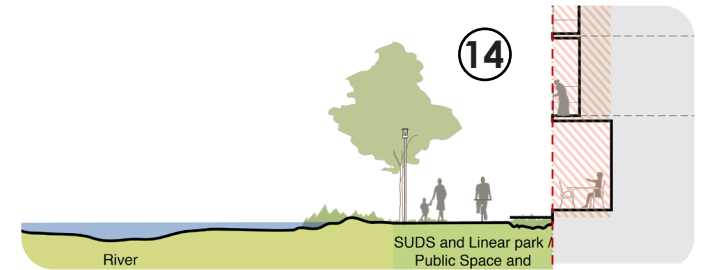
Figure 82. Precinct 6: Density



10. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
11. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
12. Connect building activities with the street by designing sidewalks and openings in building fronts to accommodate spill-out from retail and restaurants;
13. Scale buildings to people with canopies and balconies where buildings are on street front and low walls where buildings are setback from the street;
14. Buildings fronting onto the river should include overlooking features providing surveillance over the pathway and river itself. Vehicular access to river fronting properties should be taken from the rear or from internal courtyard.
15. The density and size of the precinct indicates there may be a need to include basement or semi-basement parking under the courtyards of buildings. Parking in the semi-basement should not directly abut the street. On activity streets the ground floor must be active and can include a double volume space to accommodate the parking behind. On more lower order, residential streets a level change can be applied to create a transition between public and private as well as negotiating the level change created by the semi-basement parking.



Figure 83. Precinct 6: Framework

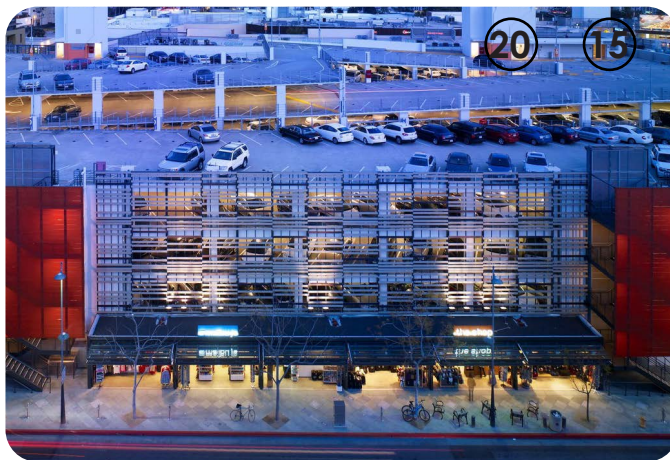
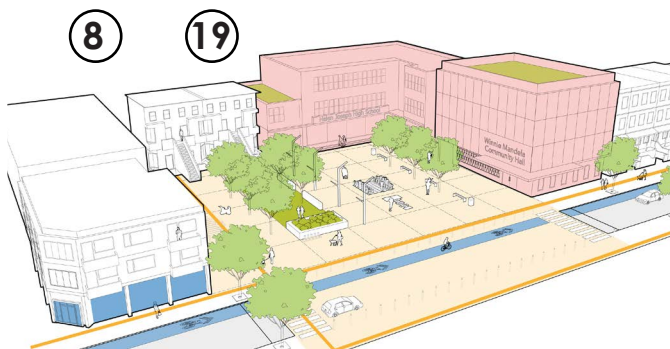


3.6.3.3. Precinct Specific Guidelines

16. Protect and minimise public accessibility to the rail reserve by locating private erven abutting the reserve.
17. Create safe pedestrian bridge across the rail reserve associated with public space and or adjacent building. The design of the bridge should be contextually appropriate, elegant, using robust materials and accommodating NMT users. See [Section 2.3](#) for bridging guidelines.
18. Public facilities should be associated with the railway station and surrounding public space;
19. Main pedestrian access points to public facilities should be directly off the public square. Vehicular access should be taken from the rear of the properties.
20. The size and high density of the Precinct indicates there may be a need for a structured parking building. See [2.2.5. Approach to Parking](#) for applicable guidelines.



Figure 84. Aerial of private housing facing onto rail reserve



3.7. Precinct 7

Intended Character and Function

A mixed use medium to high density precinct including residential and commercial/retail activity with sensitive incorporation and adaptive re-use of historic structures. Envisaged as a centre of the ATC and location for vehicular/NMT bridging between the ATC and existing development to the east.

From a heritage perspective, it is identified as Character Area 7, with its distinguishing heritage features relating to **wine cellar and brandy production** (mid to late 20th century, specifically Bergkelder), and **movement infrastructure** (including the station area).

3.7.1. Heritage Guidelines

1. High degree of resilience and ability of accommodate change. However, not to be treated as a green field site.
2. Retention of the overall grain and texture of the site, i.e. figure ground relationships, to reflect the industrial evolution of the site.
3. Retention of the mid-20th century building grouping for adaptive reuse in a mixed-use environment; could be substantially altered to accommodate new uses yet retaining industrial built form character.
4. Retention of the visual grid, tree lined avenues and stone walled edge conditions as a structuring device, particularly the visual axes towards the Papegaaiberg.
5. Opportunities for inclusion into a high to medium mixed- use development corridor to build on the strategic location of the site.
6. Conceptualise as part of a linear linking system associated with the Bosmans Crossing through the Oude Molen Precinct to the station.

3.7.2. Landscape and Public Realm Guidelines

Guidelines:

1. Retain & enhance the views of Papegaaiberg.
2. Enhance the spatial relationship of the Plankenbrug River and slopes of the Papegaaiberg through the Bergkelder precinct through hard landscaping.
3. Retain the tree lined avenues and stone walled edge conditions, particularly the visual axes towards the Papegaaiberg.
4. Retain and enhance the distinctive landmark qualities of the Cape Revival station building and its forecourt, through the use of materiality (change of road surface), street furniture and planting.
5. Increase public interaction through the inclusion of hard landscaped public recreational spaces (proposed Railway Park) and trading spaces.
6. Increase interaction with the river edge through hard landscaping and public social space.



Figure 85. Precinct 7; View towards Bergkelder entrance (Google Earth Street View Image (2021))

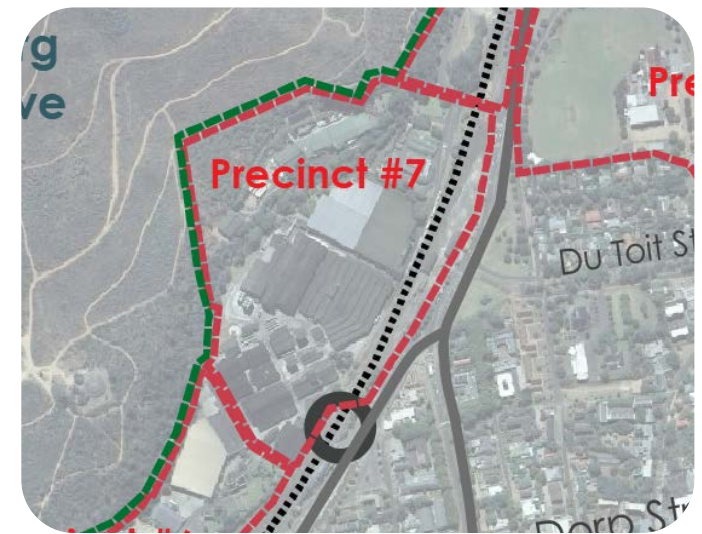
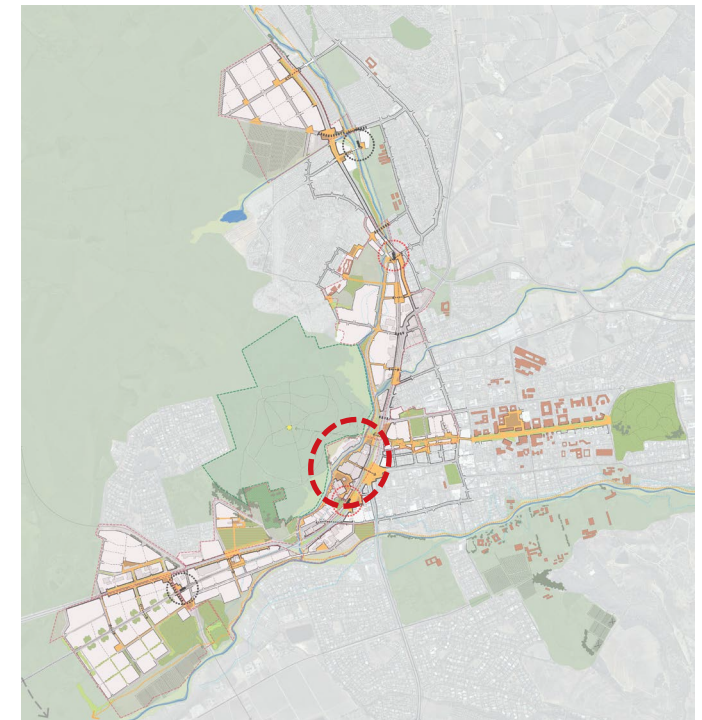


Figure 86. Precinct 7 location within the ATC and precinct boundary

3.7.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 7 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.7.3.1. Development Form and Character

1. The precinct is predominantly mixed use including an urban school site.
2. The development typologies should include multi storey apartment blocks and mixed use commercial/retail buildings taking on a courtyard or perimeter block form.
3. Building heights in Precinct 7 should range from 4 to 6 storeys.
4. The density in Precinct 7 ranges from medium to high (120 - 150+du/ha) with the highest density location along the railway line and Adam Tas Road.
5. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking (see 2.2.5. Approach to Parking guidelines);
6. Existing buildings to be adapted to accommodate new uses.

3.7.3.2. Interface Qualities

7. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
8. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
9. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;

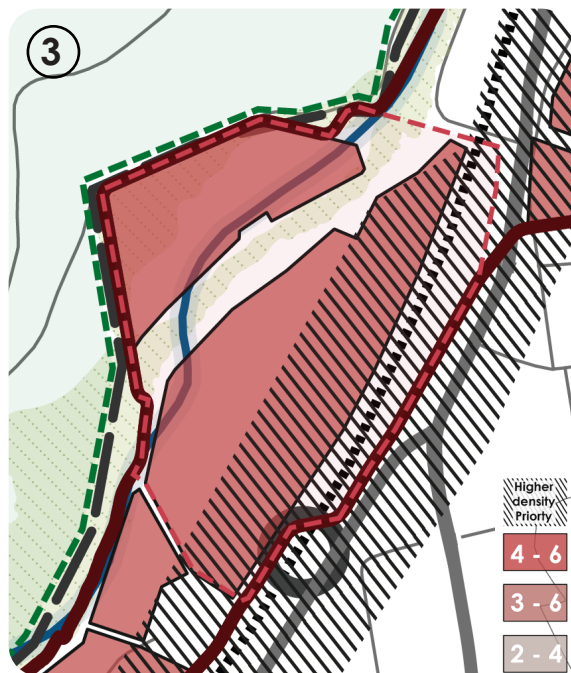


Figure 87. Precinct 7: Building Heights

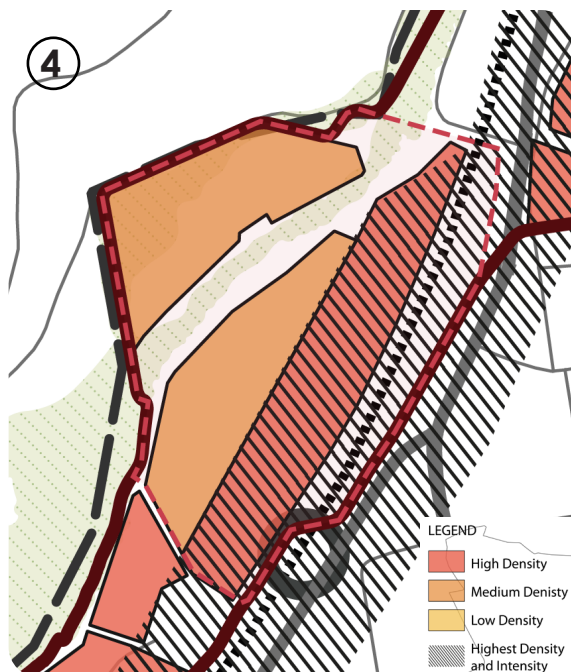
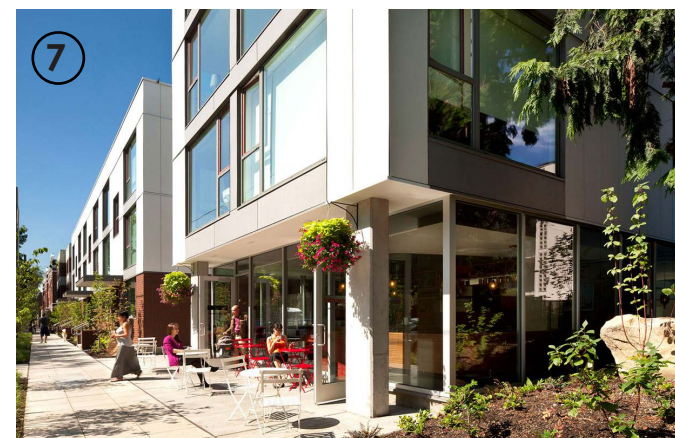


Figure 88. Precinct 7: Density



10. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.
11. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
12. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
13. Connect building activities with the street by designing sidewalks and openings in building fronts to accommodate spill-out from retail and restaurants;
14. Scale buildings to people with canopies and balconies where buildings are on street front and low walls where buildings are setback from the street;
15. Buildings fronting onto the river should include overlooking features providing surveillance over the pathway and river itself. Vehicular access to river fronting properties should be taken from the rear or from internal courtyard.
16. The density and size of the precinct indicates there may be a need to include basement or semi-basement parking under the courtyards of buildings. Parking in the semi-basement should not directly abut the street. On activity streets the ground floor must be active and can include a double volume space to accommodate the parking behind. On more lower order, residential streets a level change can be applied to create a transition between public and private as well as negotiating the level change created by the semi-basement parking.
17. On the western side of the railway line a street separates development from the railway line. Buildings located along this street should

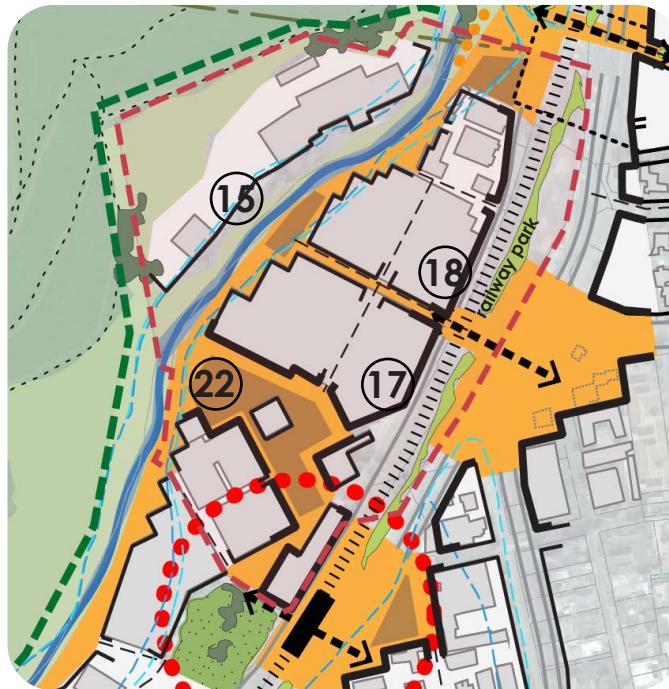
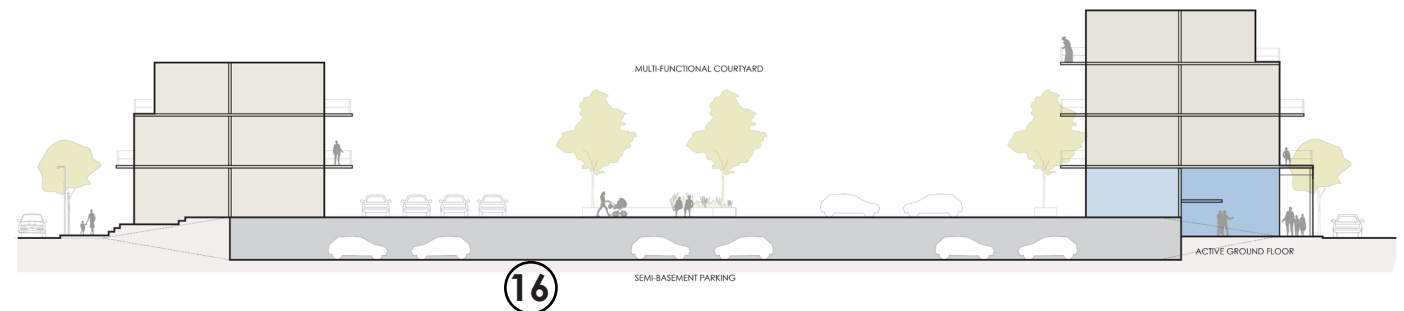
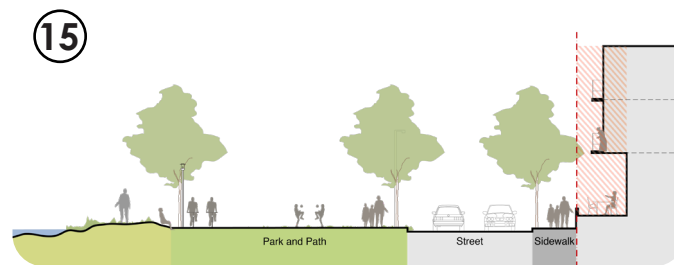


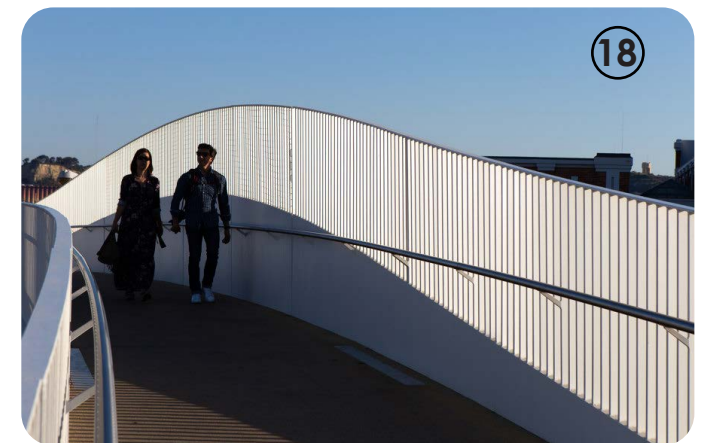
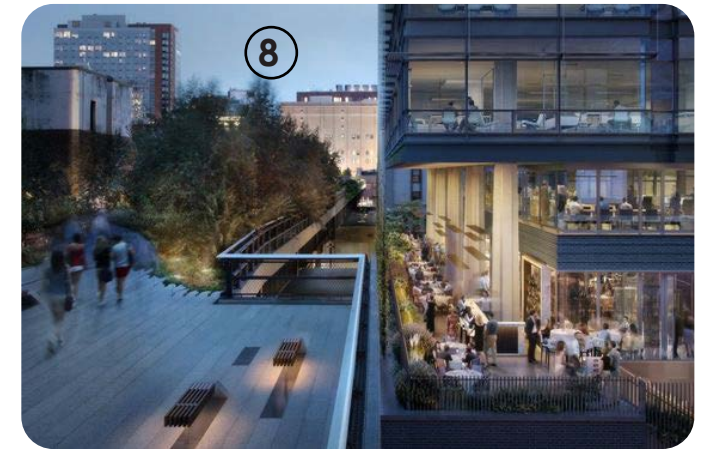
Figure 89. Precinct 7: Framework



have a positive interface onto the street with overlooking features to activate the space and ensure safety of the rail reserve.

3.7.3.3. Precinct Specific Guidelines

18. Create safe pedestrian bridge or underpass crossings of the rail reserve associated with public space and or adjacent buildings. The design of the bridges should be contextually appropriate, elegant using robust materials, accommodating NMT users. See [Section 2.3.](#) for bridging guidelines.
19. Public facilities should be associated with the railway station and surrounding public space providing defined and active edges;
20. Main pedestrian access points to public facilities should be directly off the public square. Vehicular access should be taken from the rear of the properties.
21. The size and high density of the Precinct indicates there may be a need for a structured parking building. See [2.2.5. Approach to Parking](#) for applicable guidelines.
22. The south western area of the Precinct has been ear-marked for a school. The school should take on a mixed-use, urban form with positive street frontage. See [Section 2.2.4. Public Facilities](#) for application guidelines.



3.8. Precinct 8

Intended Character and Function

A mixed use medium to high density precinct including rationalised sports uses and residential and commercial/retail activity with sensitive incorporation and adaptive re-use of historic structures. Incorporation of a new public transport interchange (possibly along Merriman Road).

From a heritage perspective, it is identified as Character Area 8, with its distinguishing heritage features relating to its **Interface zone** with the **historic town core** including the Van der Stel entry to the area.

3.8.1. Heritage Guidelines

1. Medium degree of resilience to accommodate new development recognizing townscape and landscape opportunities and constraints being located immediately adjacent to the historic core with strong visual spatial linkage with the Papegaaiberg and at a cross route condition with a high degree of accessibility.
2. Avoid the simple “filling in” of open space. Respond positively to the juxtaposition of fine-grained residential fabric (south) and coarse grained industrial fabric (west) as well as the gateway conditions and strategic location of the precinct at the entrance to the historic core and in relation to Bergkelder and George Blake precincts as core components of the growth corridor.
3. Redevelopment of the site must retain a strong green linkage element and contribute to the public open space network of the town.

3.8.2. Landscape and Public Realm Guidelines

Guidelines:

1. Major entry (Gateway) point into the historic core via Merriman Avenue and Bird Streets to be celebrated through landscape design.
2. Physical crossing of Adam Tas Road to be emphasized.
3. Visual axis to Papegaaiberg to be emphasized through planting and pedestrian road materiality.
4. Green open space, or possible Pocket Park, in close proximity to the Papegaaiberg (pinch point) at a cross route to link the integrated green spaces and pedestrian linkages.
5. Sports Club to form part of green recreational system.
6. SUDS principles (Section 2.4.3) to be incorporated where possible.



Figure 90. Precinct 8: Gateway to the historic core of Stellenbosch (Google Earth Street View Image (2021))

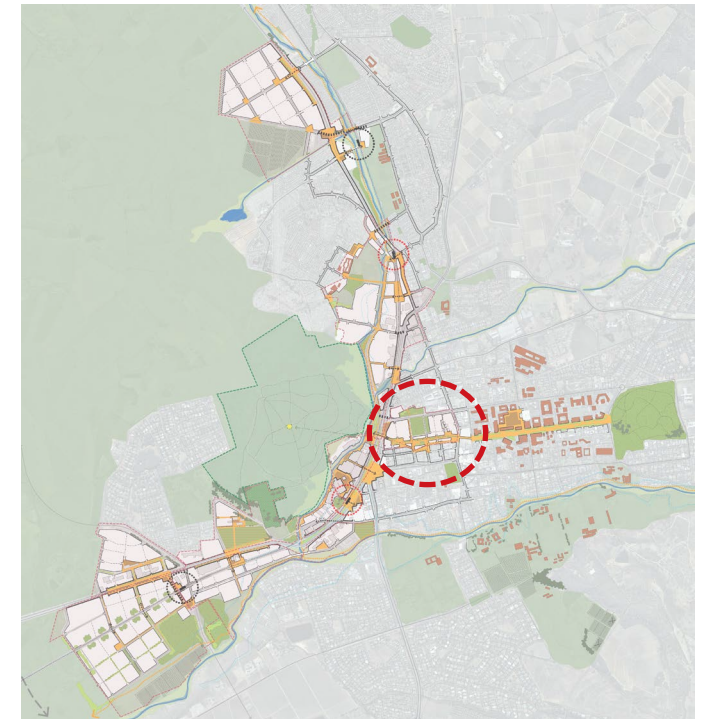


Figure 91. Precinct 8 location within the ATC and precinct boundary

3.8.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 8 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.8.3.1. Development Form and Character

1. The precinct is predominantly mixed use with a large public space element and sports facilities.
2. The development typologies should include multi-storey apartment blocks and mixed use commercial/retail buildings taking on a courtyard or perimeter block form.
3. Building heights in Precinct 8 should range from 4 to 6 storeys.
4. The density in Precinct 8 ranges from medium to high (120 - 150+du/ha) with the highest density location along Adam Tas Road and extensions of University Avenue.
5. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking (see 2.2.5. Approach to Parking guidelines);

3.8.3.2. Interface Qualities

6. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
7. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
8. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;
9. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the

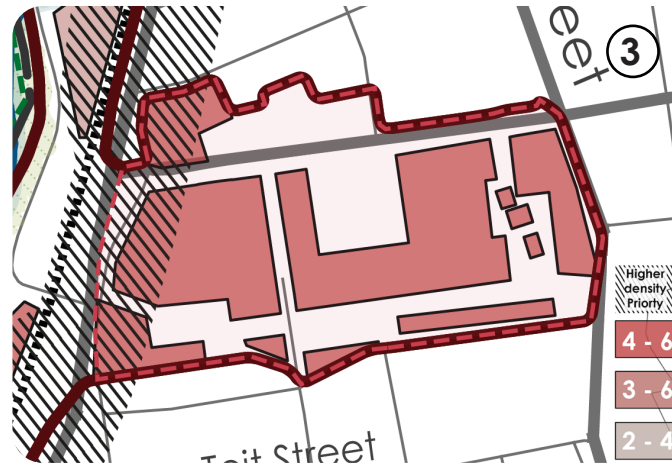


Figure 92. Precinct 8: Building Heights



Figure 93. Precinct 8: Density

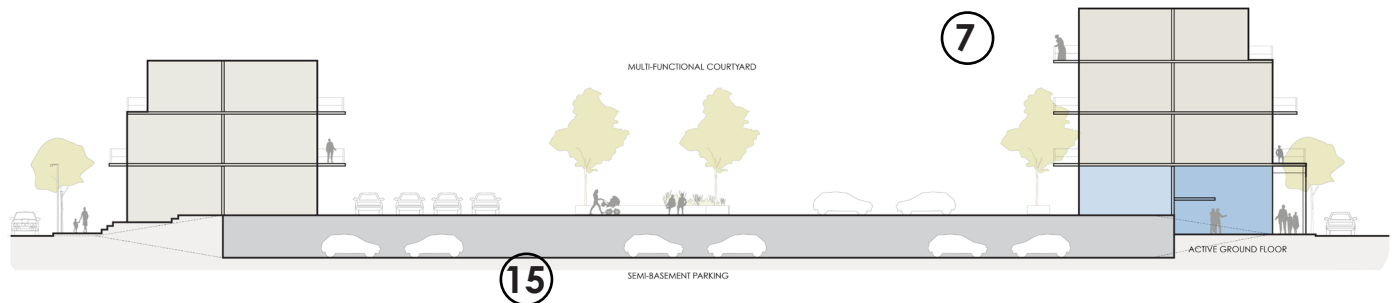


space. Backs of properties should not abut public space.

10. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
11. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
12. Connect building activities with the street by designing sidewalks and openings in building fronts to accommodate spill-out from retail and restaurants;
13. Scale buildings to people with canopies and balconies where buildings are on street front and low walls where buildings are setback from the street;
14. Buildings fronting onto sports field should include overlooking features providing surveillance. Vehicular access to these properties should be taken from the rear or from internal courtyard.
15. The density and size of the precinct indicates there may be a need to include basement or semi-basement parking under the courtyards of buildings. Parking in the semi-basement should not directly abut the street. On activity streets the ground floor must be active and can include a double volume space to accommodate the parking behind. On more lower order, residential streets a level change can be applied to create a transition between public and private as well as negotiating the level change created by the semi-basement parking.
16. The extension of University Avenue is an important NMT route where spill-out, ground floor activity should be prioritised and a 0m setback line encourage.



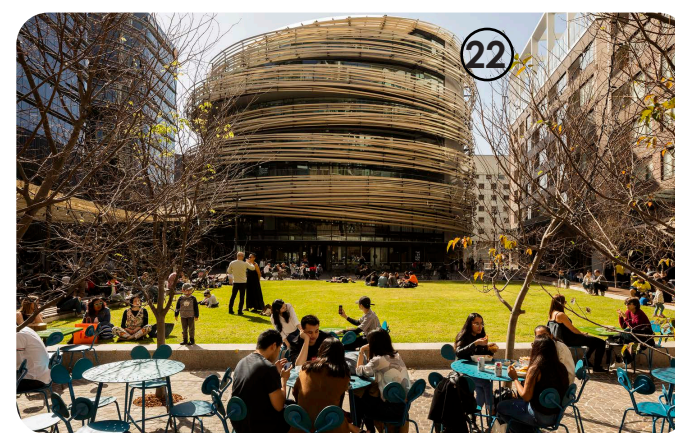
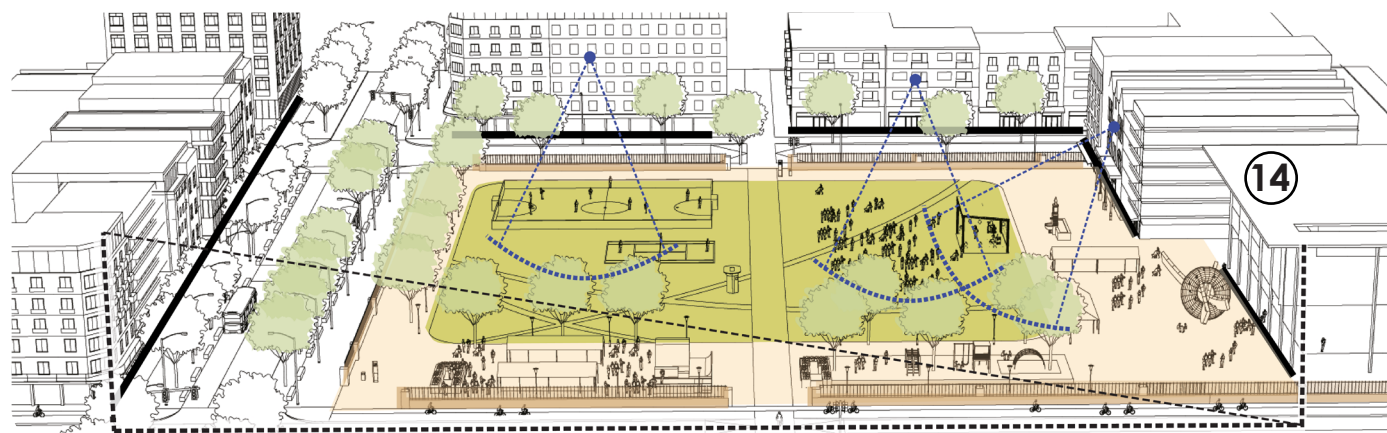
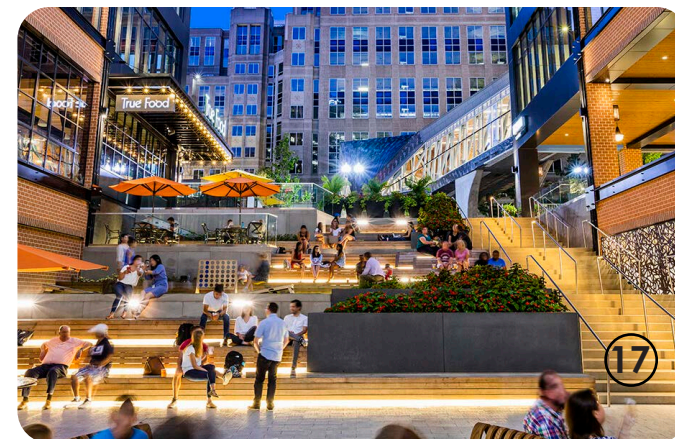
Figure 94. Precinct 8: Framework



15

3.8.3.3. Precinct Specific Guidelines

17. Create safe pedestrian bridge crossing of Adam Tas Road and the rail reserve. The bridge should be associated with public space and or integrated with adjacent buildings. The design of the bridges should be contextually appropriate and elegant using robust materials and accommodating NMT users. See [Section 2.3](#) for bridging guidelines.
18. Public facilities should be associated and clustered with supporting facilities and public open space.
19. Main pedestrian access points to public facilities should be directly off the public square. Vehicular access should be taken from the rear of the properties.
20. The size and high density of the Precinct indicates there may be a need for a structured parking building. See 2.2.5. Approach to Parking for applicable guidelines.
21. Sports facilities should be surrounded by mixed use development ensuring 24 hour surveillance;
22. Supporting uses such as public bathrooms, food and beverage options, smaller scale sporting facilities such as public table tennis tables etc. should be associated with the sports fields ensuring extended activity periods.



3.9. Precinct 9

Intended Character and Function

A mixed use area incorporating new development and adaptive reuse through redevelopment of individual and consolidated properties currently in multiple ownership. Strong presence of small workshops and industrial spaces.

From a heritage perspective, it is identified as Character Area 9, with its distinguishing heritage features relating to **industrial expansion** (late 20th century to the north), including **historical settlement and displacement** (the Bird Street point of entry to Stellenbosch).

3.9.1. Heritage Guidelines

1. Considerable capacity to absorb a more intensive pattern of development.
2. Plankenbrug riverine corridor and the opportunities for a continuous landscaped pedestrian walkway with cross linkages into Kayamandi to be incorporated into a precinct plan. Similarly, the orthogonal street pattern should be maintained and visual /spatial linkages to the Papegaaiberg enhanced in terms of a grid of views.
3. Web of green and visual connectivity between the Papegaaiberg and the Plankenbrug riverine corridor.
4. Maintain the avenue of oak trees flanking Bird Street, a major point of entry into Stellenbosch from the north.
5. Develop a tree management programme to ensure the long-term protection of the trees.
6. Explore opportunities for the memorialization of the forced removals related to Group Areas in collaboration with the affected community.

3.9.2. Landscape and Public Realm Guidelines

Guidelines:

1. Emphasize the Plankenbrug river walkway through a formal walkway (that links all the precincts) along George Blake road.
2. Improve connections along the walkway through the creation of pocket parks.
3. Maintain the avenue of oak trees flanking Bird Street, due to historical & visual significance as an early access route from Paarl dating from the late 17th century. It is also a major point / gateway of entry into Stellenbosch from the north.
4. Maintain the station building forecourt which are the last remaining physical elements of Du Toitsville.
5. Include memorialization elements, together with the affected community, to represent the forced removals related to Group Areas.
6. Develop a tree management programme to ensure the long-term protection of the trees.

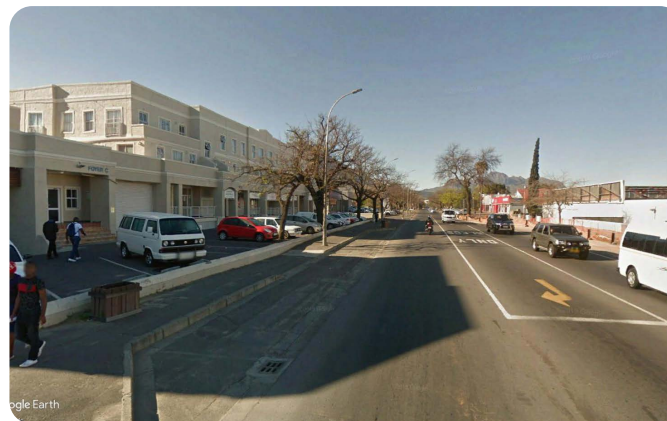


Figure 95. Precinct 9: View down tree lined Bird Street from gateway point (Google Earth Street View Image (2021))

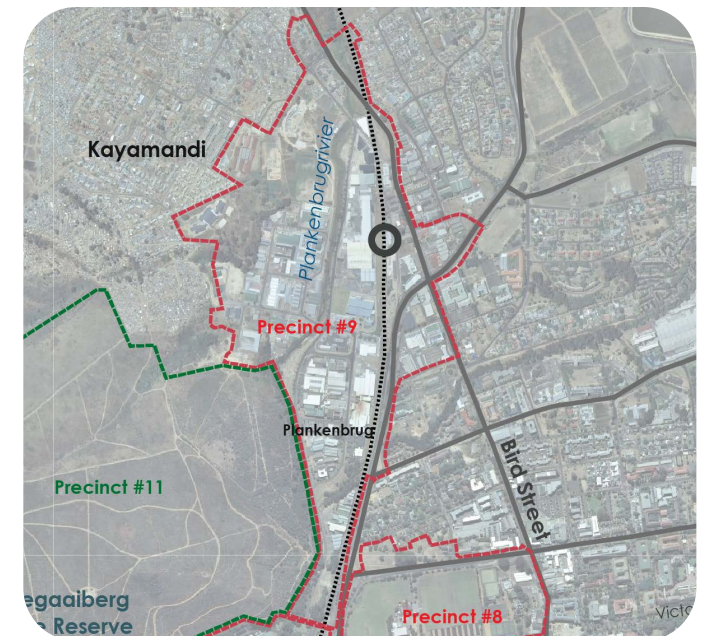
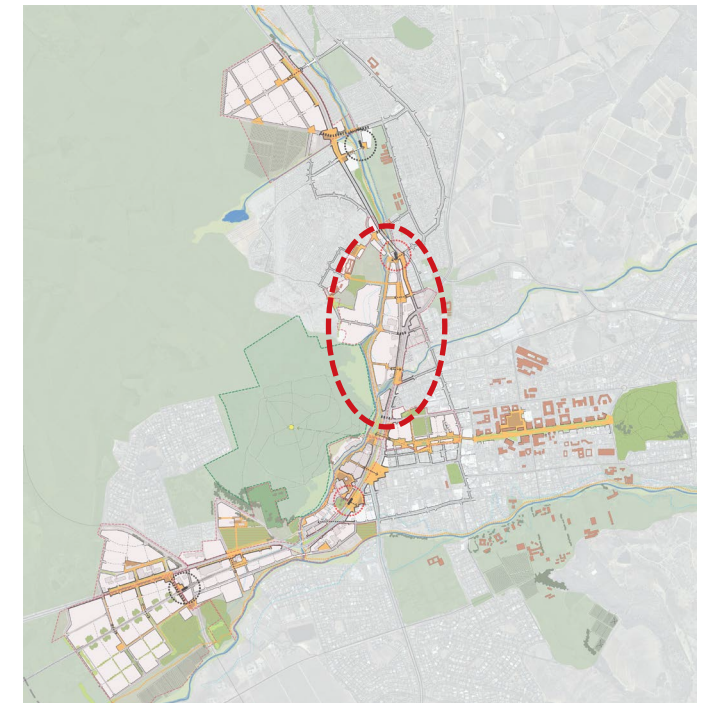


Figure 96. Precinct 9 location within the ATC and precinct boundary

3.9.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 9 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.9.3.1. Development Form and Character

1. The precinct is predominantly mixed use including adaptive reuse of existing buildings;
2. The development typologies should include multi storey apartment blocks and mixed use commercial/retail buildings taking on a courtyard or perimeter block form.
3. Building heights in Precinct 9 should range from 3 to 6 storeys.
4. The density in Precinct 9 ranges from low to high (100 - 150+du/ha) with the highest density located along the railway line and Adam Tas Road. Lowest density is located along the Pappegaalberg Reserve edge.
5. Buildings should include private or semi-private, internal, landscaped courtyards accommodating parking (see 2.2.5. Approach to Parking guidelines);

3.9.3.2. Interface Qualities

6. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
7. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
8. Perimeter buildings have a maximum ground floor setback of 2m from the street edge. Above ground, buildings can overhang to the property boundary;

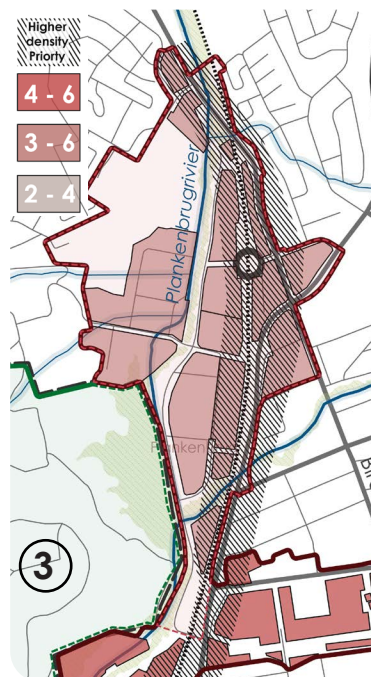


Figure 97. Precinct 9: Building Heights

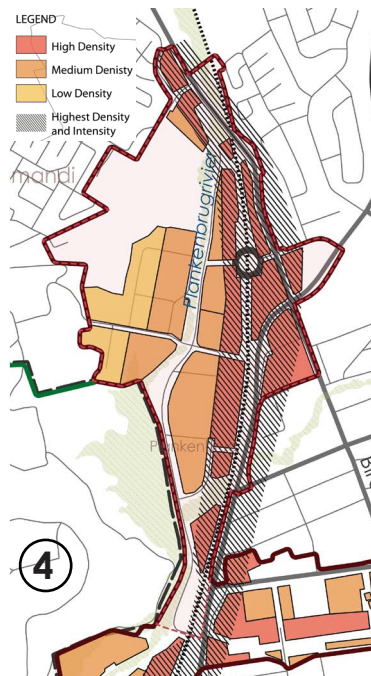


Figure 98. Precinct 9: Density



9. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.
10. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
11. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
12. Connect building activities with the street by designing sidewalks and openings in building fronts to accommodate spill-out from retail and restaurants;
13. Scale buildings to people with canopies and balconies where buildings are on street front and low walls where buildings are setback from the street;
14. Buildings fronting onto the river should include overlooking features providing surveillance over the pathway and river itself. Vehicular access to river fronting properties should be taken from the rear or from internal courtyard.

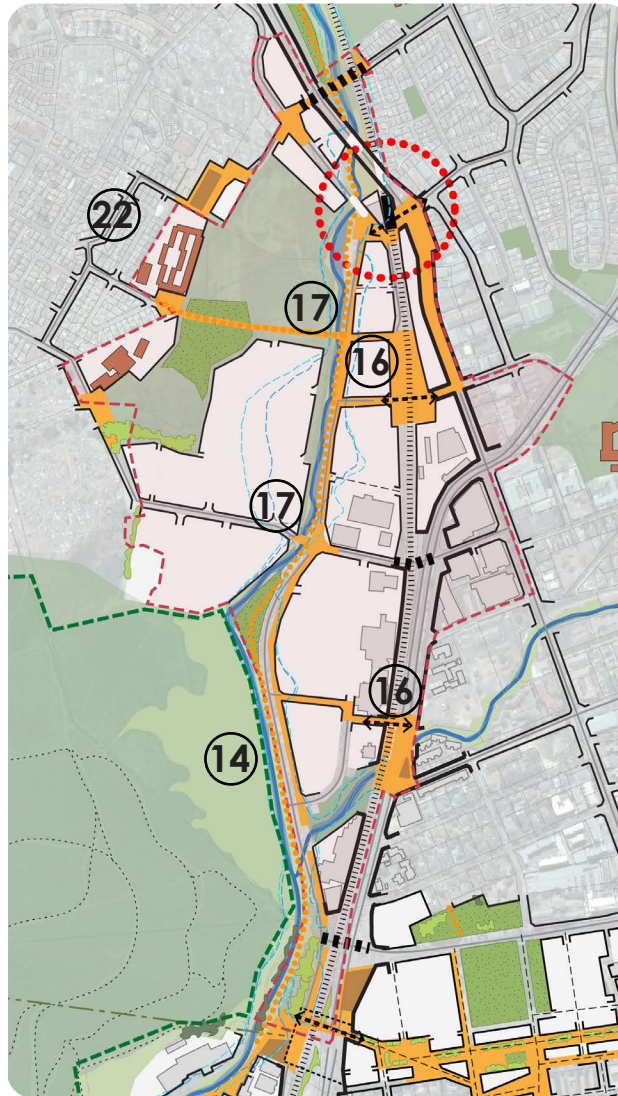
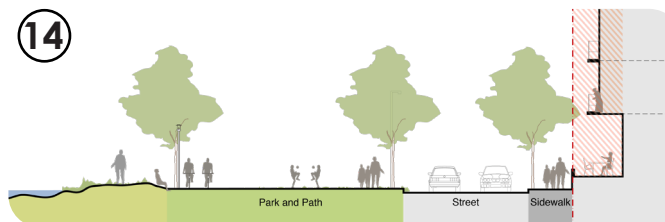
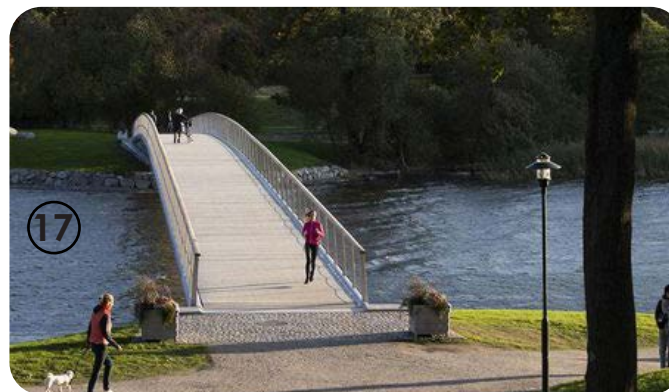


Figure 99. Precinct 9: Framework



3.9.3.3. Precinct Specific Guidelines

15. Protect and minimise public accessibility to the rail reserve by locating private erven abutting the reserve.
16. Create safe pedestrian bridge or underpass crossings of the rail reserve associated with public space and or adjacent buildings. The design of the bridges should be contextually appropriate, elegant using robust materials, accommodating NMT users. See Section 2.3. for bridging guidelines.
17. Create safe NMT crossing of the Plankenbrugrivier to promote integration between existing development to the west and the Adam Tas Corridor. These bridges must be integrated with the NMT network of the Precinct.
18. See Section 2.3.8 for guidelines applicable to vehicle bridges. Ensure that the areas created underneath bridges are well lit, wide and where possible activated;
19. Public facilities should be associated with the railway station and surrounding public space providing defined and active edges;
20. Main pedestrian access point to public facilities should be directly off the public square. Vehicular access should be taken from the rear of the properties.
21. More local public facilities should be clustered with public space and integrated with more residential areas of the precinct.
22. Upgrading of the existing schools is promoted including the sharing of new facilities and sports fields in order to maximise funding and distribute cost of maintenance.



3.10. Precinct 10

Intended Character and Function

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).

3.10.1. Heritage Guidelines

1. Some degree of resilience with the need to balance the urban expansion of the town while responding to the landscape context and thus avoiding peripheral sprawl.
2. Development should comprise a clear settlement structure including a legible public structure and green structure.
3. Avoid the sameness in settlement pattern or continuous swathes of development with the creation of environmental rooms, thresholds or markers in the landscape to punctuate development pockets.
4. Provide a density gradient in response to topographical conditions and movement routes with higher densities on the valley floor and lower slopes and lower densities on the upper more visually prominent slopes.
5. Provide a variation in built form typologies including the use of taller or landmark buildings at key points in the settlement structure.
6. Positive response to the patterns of access off the R304 in terms of geometry, cross route conditions and axial alignments.

7. Careful consideration edge treatments e.g. use of tree planting to reinforce gateway qualities, visually permeable boundaries.
8. Explore the principle of a local 'high street' parallel to the R304 and linking Kyamandi with its surroundings.

3.10.2. Landscape and Public Realm Guidelines

Guidelines:

1. Urban–Rural agricultural landscape gateway opportunities.
2. Use of vineyards and fruit trees in street planting of new developments.
3. Development should comprise a clear settlement structure including a legible public structure and green structure.
4. Creation of environmental spaces / corridors connecting to existing hills, rivers & mountains, between development pockets.



Figure 100. Precinct 10: Gateway between agricultural land & urban (Google Earth Street View Image (2021))

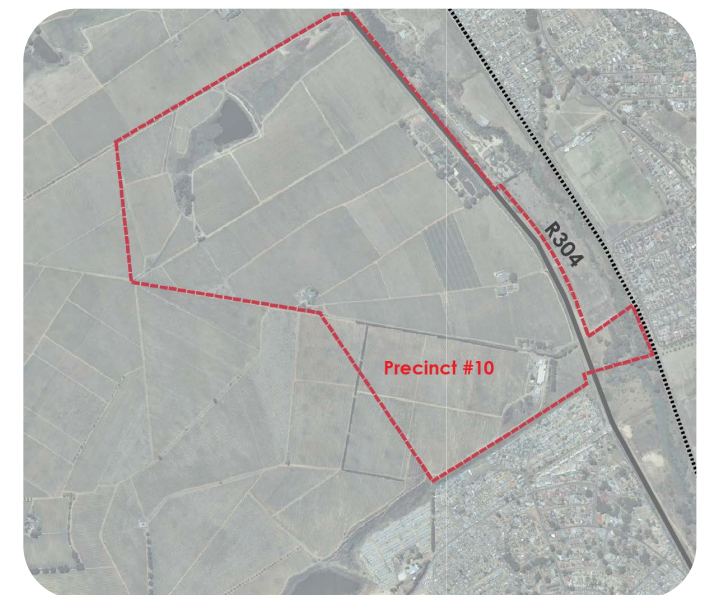
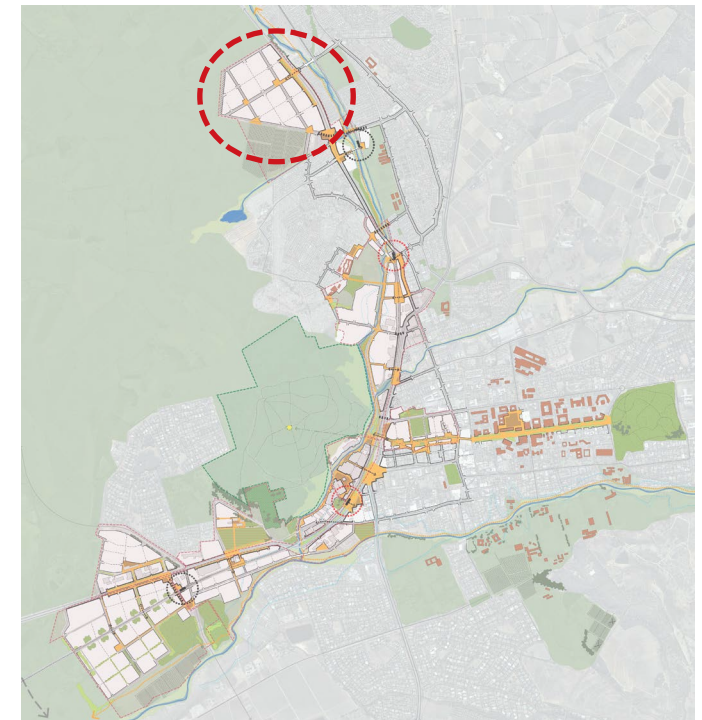


Figure 101. Precinct 10 location within the ATC and precinct boundary

3.10.3. Built Environment and Development Guidelines

The built form guidelines for Precinct 1 apply to development typologies, height, density, land use mix, interface, frontage and any special elements found within the precinct. These are unpacked below.

3.10.3.1. Development Form and Character

1. The precinct is predominantly residential (including supporting facilities) with mixed use commercial and retail development located along the Adam Tas Road.
2. A range of development typologies should be incorporated into the precinct and should include semi-detached units, row houses and multi storey apartment blocks.
3. Buildings must be located along the street edge of the block taking on a courtyard or perimeter block form no matter the typology.
4. Apartment blocks should include private, internal, landscaped courtyards accommodating parking if necessary (see 2.2.5. Approach to Parking guidelines);
5. Building heights in Precinct 10 should range from 2 to 4 storeys. with the greatest height along the R304.
6. The density ranges from low to medium (100 - 120+du/ha)

3.10.3.2. Interface Qualities

7. Building interface should contribute to the sense of enclosure, activity and surveillance of a street or space;
8. Wherever possible multi-storey buildings should include balconies to create overlooking features and increase safety through surveillance;
9. Perimeter buildings have a maximum ground floor setback of 2m from the street edge.

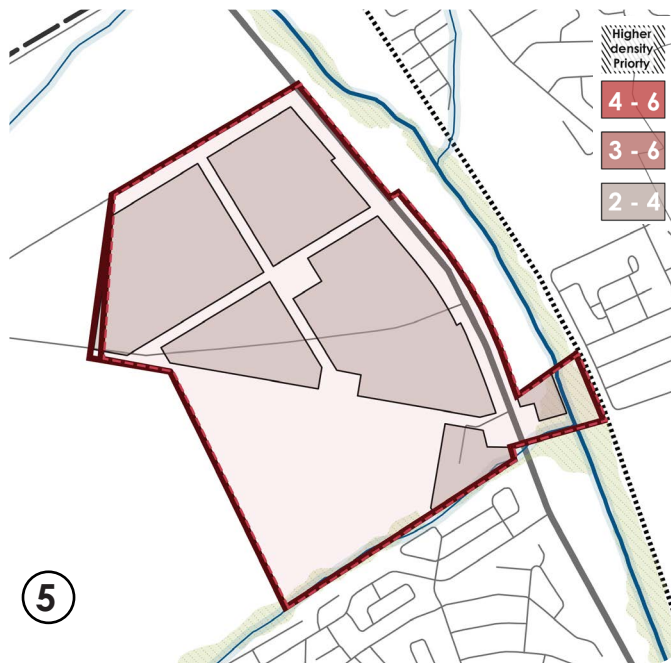


Figure 102. Precinct 10: Building Heights

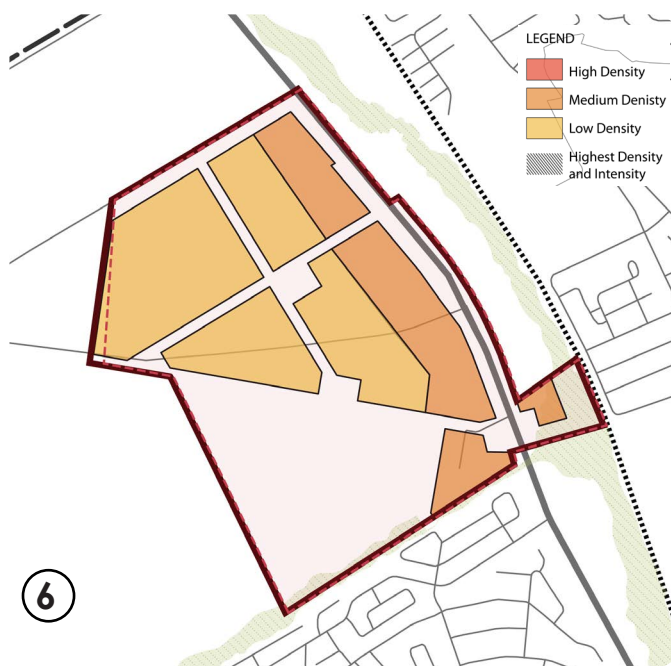


Figure 103. Precinct 10: Density



Above ground, buildings can overhang to the property boundary;

10. Semi-detached and row houses can be set back a maximum of 5m from the street edge to accommodate parking in front of the building and change of use over time.
11. Ideally the residential setback should be no more than 2m from the street edge;
12. Ensure public open space is surveilled and safe by including overlooking features, residential front doors and a public street enclosing the space. Backs of properties should not abut public space.
13. Allow for a gradation between public and private space, by designing semi private interfaces through the use of raised terraces, colonnades and landscaping where appropriate;
14. Activate the ground floor with front doors, commercial, retail, food and beverage uses.
15. Buildings fronting onto the R304 must include an active ground floor opening onto the sidewalk which includes landscape elements and tree planting. Some street parking may be included within the street section

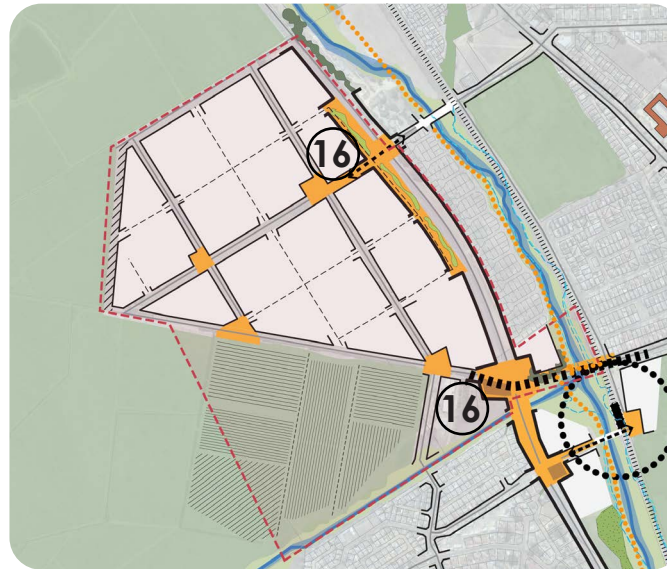
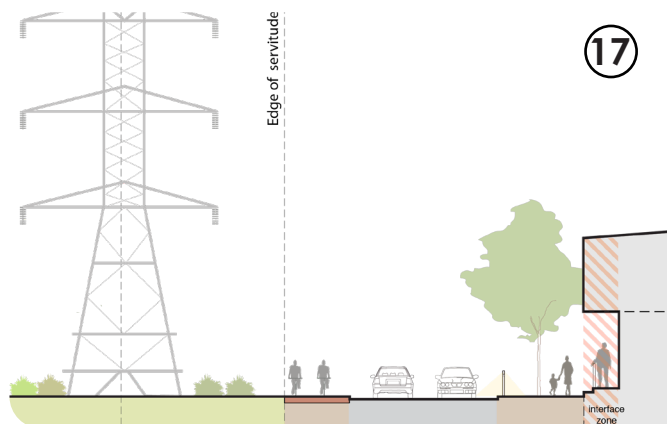


Figure 104. Precinct 10: Framework



3.10.4. Precinct Specific Guidelines

16. Public facilities supporting residents of the Precinct should be clustered with public space. Facilities requiring the highest accessibility should be located along higher order routes;
17. Development abutting the electrical servitude should be set back and screened with the use of landscaping. An adjacent street including NMT amenities is encouraged to allow access to the servitude and residential units.
18. See Section 2.3. for guidelines applicable to vehicle bridges. Ensure that the areas underneath bridges are well lit, wide and where possible activated.



3.11. Precinct 11

Intended Character and Function

A protected nature area sensitively developed as a central recreational park to contain active conservation, walking and cycling routes and improved amenities, linked to surrounding areas and the broader Stellenbosch NMT network. To enhance safety through greater public use.

From a heritage perspective, it is identified as Character Area 11, with its distinguishing heritage features relating to **Passive recreation** and **retreat** (Papegaaiberg)

3.11.1. Heritage Guidelines

1. Maintain the existing natural unbuilt quality.
2. Enhance the integration with the public realm and open space system of the town to ensure a continuity of green; a continuous network of public open space integrated with the water network, including rivers, canals and the leiwat system.
3. Enhance access opportunities, particularly from the cemeteries at the point of entry into Stellenbosch and Kayamandi.
4. Develop a use management plan specifying use intensity zones (passive and active recreation), permissible and prohibited activities.
5. Explore memorialization opportunities. To include a public participation programme to elicit the range of meanings associated with the place.
6. Ensure that any built form interventions, including paved surfaces, benches, shaded areas and possible memorial opportunities are integrated into the landform, utilize appropriate materials and have minimal visual impact.

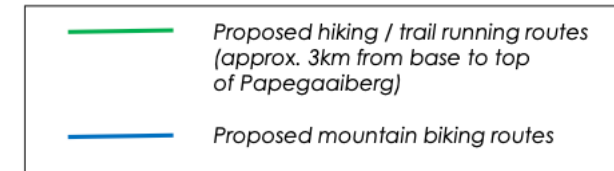
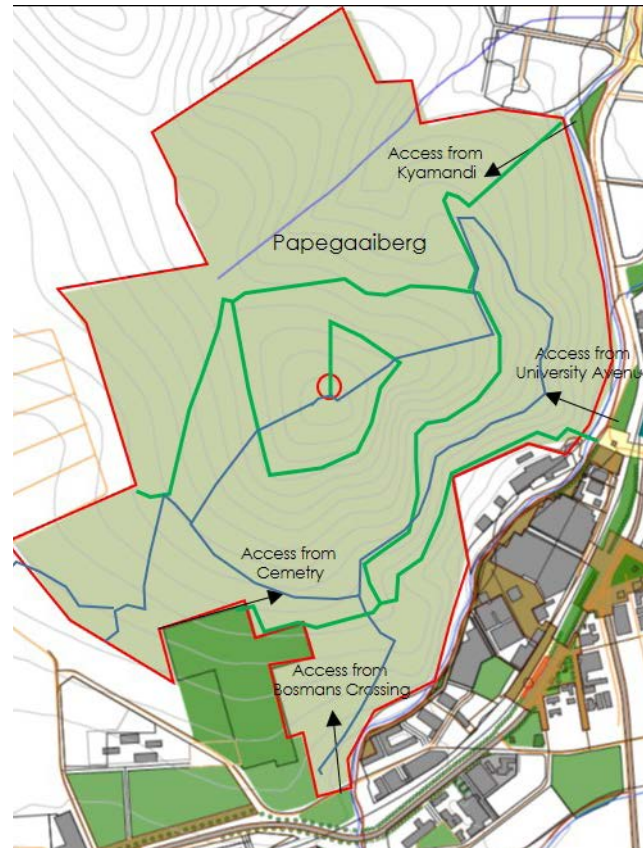


Figure 105. Proposed entrances, running and mountain biking paths on Papegaaiberg



Figure 107. View of Stellenbosch from Papegaaiberg



Figure 108. View of Papegaaiberg from Adam Tas Road



Figure 106. Freedom Park amphitheatre, Pretoria

3.11.2. Landscape and Public Realm Guidelines

Papegaaiberg, 250m above sea level, is bordered in the west by the Onder-Papegaaiberg residential area and the farm Middelvlei. Kayamandi forms the northern boundary while the industrial areas of Plankenbrug and Papegaaiberg, Distell cellars, the Bergkelder, Bosman's Crossing and Oudemolen collectively form the eastern boundary of the nature reserve. The Stellenbosch cemetery and Oude Libertas form the southern boundary.

Papegaaiberg Nature Reserve forms part of a system of de jure and de facto protected nature areas that collectively form the core and buffer areas of the Cape Winelands Biosphere Reserve 3. This system is based upon the principle that a system of protected areas is a strategy to maintain biodiversity and ecosystem functions on a larger regional scale. It is imperative that such a system be designed and managed to represent and protect the diversity of ecological processes, communities, species.

Rivers are of great importance as part of the system of protected nature areas. This is largely due to their function as ecological corridors that link the various core conservation areas. The Plankenbrug River forms the eastern boundary of Papegaaiberg.

Papegaaiberg, comprising some 140,5ha, is a public conservation area (declared as a Section 23 Nature Reserve in terms of the National Environmental Management: Protected Areas Act).

There is an opportunity for Papegaaiberg to become a core recreation space where biodiversity is celebrated, accessible to and via the ATC and the rest of Stellenbosch.

There are critically endangered renosterveld remnants occurring on Papegaaiberg, which should be protected and restored.

For Papegaaiberg to fulfill a role as a core amenity within the ATC and Stellenbosch, it will require a plan and associated budget and management arrangements.

Guidelines:

7. Restoring and maintaining the ecological and visual integrity of Papegaaiberg.
8. Endangered renosterveld to be restored using same genetic material, through seed collection and propagation.
9. Endangered vegetation type to be highlighted and protected through education.
10. Papegaaiberg and the Plankenbrug River to be restored together as a functioning ecological entity as part of the larger ecological corridor system.
11. Public access routes to the mountain to be made more accessible:
 - Access via new bridges crossing the river (See 2.4.1). Entrances to be emphasized and activated through design.
 - Access via the Cemetery / Memorial Park
 - Access via the open green space near Kyamandi and flanking the industrial area. The green space to become a pocket park / recreational space.
12. Use existing pathways to create trail running and mountain biking routes. The running and biking routes should be kept separate as much as possible.
13. Tracks must be mapped and inspected to determine stability, alignment, erosion potential and rider safety
14. Mountain biking routes will require regular maintenance.
15. Creation of tourist-related infrastructure on Papegaaiberg including toilets.
16. Provide security to create a safe recreational space.

Planting Guidelines

Papegaaiberg falls into the endangered Swartland Shale Renosterveld vegetation type. This vegetation type must be conserved and where necessary restored to the site. See tables on following page for planting guidelines.

17. All alien vegetation is to be removed. These could be trees, grasses and other weeds.
18. To remove alien vegetation, the application of herbicide is the most effective option. The herbicide must be carefully selected, as it should be specific to the plants targeted, and it should destroy the seeds of the target species.
19. Application of the herbicide must be carefully timed. Spraying should occur just before seed germination, when they are most metabolically active and take up the herbicide.
20. For Papegaaiberg, the best time for this will be autumn, before the start of the first winter rains. It is advisable to repeat the herbicide application after one month, to allow for seasonal and annual variation in germination periods.
21. Once the alien vegetation has been removed, seeds of indigenous species must be brought onto the area to be restored, as this might or cannot happen naturally, especially if the restoration site is isolated from natural vegetation.
22. To maintain the genetic plant material of Papegaaiberg, seeds and cuttings could also be collected by a botanist (or similarly qualified) with experience of restoration planting. The seeds / cuttings will need to be propagated until they are large enough to be planted back on site.
23. Seeds collected nearby can also be dispersed on the site.

SHRUBS	
Botanical Name	Common Name
<i>Anthospermum aethiopicum</i>	Jakkalsstert
<i>Athanasia crithmifolia</i>	Draadblaar-klaaslouwbos
<i>Athanasia trifurcata</i>	Klaaslouwbos
<i>Carex clavata</i>	Studded sedge
<i>Elytropappus rhinocerotis</i>	Renostebos
<i>Eriocephalus africanus</i>	Wild Rosemary
<i>Euclea racemosa</i>	Dune gwarrie
<i>Euryops thunbergii</i>	
<i>Helichrysum patulum</i>	Kooigoed
<i>Helichrysum revolutum</i>	Curry bush
<i>Leucodendron lanigerum</i> var <i>lanigerum</i>	Common Shale Conebush (Endangered)
<i>Metalsia dregeana</i>	
<i>Plechostachys serpillifolia</i>	Vaaltee
<i>Rhus dissecta</i>	
<i>Salvia africana</i>	Blue Sage
<i>Salvia aurea</i>	Bruinsalie
<i>Stoebe plumosa</i>	

TREES	
Botanical Name	Common Name
<i>Olea europea</i> ssp <i>africana</i>	Wild Olive

TREES	
Botanical Name	Common Name
<i>Aristea africana</i>	
<i>Lachenalia</i> spp	
<i>Ornithogalum thysoides</i>	
<i>Watsonia marginata</i>	

GRASSES AND GROUNDCOVERS	
Botanical Name	Common Name
<i>Harpochloa falx</i>	Caterpillar Grass
<i>Hypharrena hirta</i>	Thatch grass
<i>Knowltonia vesicatoria</i>	Brandblaar
<i>Stachys aethiopica</i>	Katbossie
<i>Themeda triandra</i>	Rooigras

3.12. Development Application Checklist

A Development Checklist has been completed to support the assessment process for all development applications received within the ATC.

In the review of development applications, the following set of questions can be referred to, which relate to the ATC development guidelines outlined previously. These questions are applicable to both new development and for changes/ adaptive reuse of existing buildings and infrastructure.

1. Does the proposed development **align with and support the identified character and function of the Precinct** in which it is located?

Possible considerations relate to the following:

- Appropriate landuse mix
- Retention and adaptive reuse of existing structures
- Positive relation between new and old buildings with consideration of appropriate height and transition, architectural language as well as the form and massing of new structures
- A suitable landscaping response with the inclusion of appropriate tree planting and other planted elements within the development

2. Does the proposed development **contribute to the protection and or enhance the performance of natural systems** within the ATC and the Precinct in which it is located?

Possible considerations relate to the following:

- Inclusion of appropriate building setbacks and interface conditions onto river and floodplain spaces
- Inclusion of sustainable urban drainage systems to manage stormwater

3. Does the proposed development promote **spatial integration** and connection with its surrounds?

Possible considerations relate to the following:

- Alignment of the Development with the proposed structure and primary access routes identified in the ATC LASDF
- The subdivision of new development is structured to align with and maintain links with key surrounding access routes and promote continuous public access (vehicular & NMT) along these routes
- Secure/ Gated Developments are scaled to not inhibit easy and direct NMT access between ATC precincts
- Inclusion of NMT links within the Development design that facilitate connection with the surrounds

4. Does the development promote the **efficient and just use of land** within the ATC and the Precinct in which it is located?

Possible considerations relate to the following:

- Inclusion of mixed use, high density forms of development
- Prioritising the design of multifunctional spaces and buildings
- Inclusion of affordable housing within the landuse mix
- Contribution to sustainable livelihood generation in the landuse mix

5. Does the proposed development **add value to the character, quality and performance of the public environment** within the ATC and the Precinct in which it is located?

Possible considerations relate to the following:

- Inclusion of publicly accessible public spaces (urban and natural) within the development
 - Inclusion of public amenity and facilities within the development
 - Promoting public access to key natural and open spaces within the ATC including river frontage and mountain routes
6. Does the proposed development contribute to the making of **safe, active and vibrant streets and public spaces** within the ATC and the Precinct in which it is located?

Possible considerations relate to the following:

- Buildings are orientated towards the street and or public spaces with minimal setbacks
 - Ground floors of buildings facing onto key NMT streets and structuring routes are active and/ or have positive facades
 - Building design promotes passive surveillance of the street with the incorporation of verandahs/ stoeps on the ground floor and or balconies on upper stories
 - Appropriate landuse mix that supports the making of live, work, play and learn environments
 - Inclusion of accessible public spaces (hard and soft) with street furniture within the development design
 - Use of visually permeable fencing on the property boundary perimeter
7. Does the development prioritise **NMT forms of access** within the ATC and the Precinct in which it is located?

Possible considerations relate to the following:

- Minimum parking is provided in the development which can be converted to habitable use at a later stage
- The layout of developments are designed to promote direct and convenient NMT access with appropriate block sizes and grid structure
- Buildings are designed to promote easy and convenient NMT access including the incorporation of sheltered edges on buildings with street edges as well as the inclusion of tree planting and street lighting on sidewalks
- Primary entrances to buildings are located on street edges of buildings
- Appropriate development responses are provided around public transport stops and interchanges



1. Alignment of the Development with the identified character and function of the Precinct



2. Contribution of the Development to the protection and or enhancement of natural systems



3. Contribution by the Development to promoting spatial integration and improved connectivity between Precincts within the ATC



4. Contribution of the Development to the efficient and just use of land within the ATC



5. Contribution of the Development to the positive character, quality and performance of the public environment



6. Contribution of the Development to the making of safe, active and vibrant streets and public spaces



7. Prioritisation of NMT forms of access within the Development

