



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

GREEN INFRASTRUCTURE PROGRAMME



BEST PRACTICE GUIDELINES



URBAN GREEN

Making progress possible. Together.

Electronic document navigation shortcuts:

- Entries on the contents page link to the relevant page.

Please note:

The guidelines in this document are not intended to be prescriptive. Instead, they are meant to guide property owners, City officials, designers, developers, architects, planners and community members in managing and improving our green infrastructure collectively and sustainably to create safe, contextually appropriate environments.

While every effort has been made to ensure the accuracy and quality of the information, the City cannot be held responsible and will not be liable for any errors or omissions. In the event of conflicting information, the relevant legislation and approved City policies and by-laws shall take precedence.

If you have any comments, suggestions or updates, please email enviro@capetown.gov.za.

Produced by the City of Cape Town’s Environmental Management Department, with input from the Recreation and Parks Department, the Catchment, Stormwater and River Management Branch of the Bulk Water Services Department, and the Risk and Resilience Department.

In no event will the City be liable for any loss or damage that may arise from the use of these guidelines.

September 2024

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INTRODUCTION

Cape Town is regarded as the most biodiverse city in the world. We are fortunate to have a national park, 21 nature reserves, 16 biodiversity agreement sites and numerous other areas of conservation significance and value in our city. These protected areas, as well as other green spaces (e.g. watercourses, greenbelts, parks, gardens, road verges, utility servitudes), natural assets (e.g. trees) and constructed features (e.g. green roofs, green walls, urban water features), all contribute to the urban green fabric that brings nature into the urban context.

This urban green fabric provides ecological, social and economic benefits and important ecosystem services, including passive and active recreation, social connection, aesthetic considerations, habitat, as well as improved resilience to climate change through, for instance, heat mitigation and water attenuation and infiltration. Green areas also provide opportunities for compatible socioeconomic activities (such as events, pop-up markets and environmental education initiatives). Urban green spaces and assets help bring people and nature closer together and let us enjoy nature in a metropolitan area that is experiencing ever-increasing urbanisation.

In addition to boosting people’s connection with nature, daily doses of urban nature foster improved physical, mental and social well-being. There is growing evidence that exposure to nature, particularly in urban environments, can lead to healthier and happier city dwellers. Studies reveal that children are healthier, happier and maybe even smarter when given the opportunity to interact with nature.

The urban green fabric is also extremely important for reducing urban heat islands. Concrete, brick, asphalt, metal and other construction materials absorb, store and emit more heat than green vegetation, rendering urban built-up areas up to 5 °C warmer than areas containing greenery. Urban green areas limit the heat island effect by reducing the amount of heat absorbed and emitted by hard surfaces, and lowering air temperatures through evapotranspiration. With the increase in temperatures anticipated under climate change, protecting and expanding our urban green fabric will become increasingly important.

Protecting, maintaining and enhancing our urban green fabric is important to ensure that we secure the green infrastructure benefits and ecosystem services it provides, enable equitable access to nature and quality green spaces for the health and well-being of our citizens, and enhance the liveability of our city.



Figure 1: Community members enjoying a sunset concert on the greens at the Bellville Golf Club.

DEFINING KEY CONCEPTS

Biodiversity: The variety within and between all species of plants, animals and micro-organisms and the ecosystems within which they live and interact.

Biodiversity Network (BioNet): The systematic, fine-scale biodiversity plan for the Cape Town municipal area, developed to meet national biodiversity targets.

Bioretention: The use of vegetated depressions to hold stormwater so that natural processes can treat it (e.g. remove contaminants and sedimentation) before it infiltrates or is discharged.

Corridors: Areas that permit the movement of animals and the dispersal of seeds between green spaces. These may include areas where indigenous species still survive (indigenous remnants), watercourses, roadside verges, land under power lines and other utility servitudes, as well as agricultural and other undeveloped land.

Ecosystem: A dynamic complex of animal, plant and micro-organism communities and their non-living environment, interacting as a functional unit.

Ecosystem services: The many and varied benefits to people derived from the natural environment and healthy ecosystems. These include provisioning (e.g. food and water), regulating (e.g. water purification, flood control and climate regulation), supporting (e.g. habitat provision, photosynthesis and nutrient cycling) and cultural (e.g. recreational, spiritual, educational and aesthetic-value) services.

Endemic species: A species that is unique to a defined geographic location or habitat type and is not naturally found elsewhere.

Evapotranspiration: With regard to vegetation, the loss of water in the form of water vapour, mainly from leaf structures, but also from evaporation from the surfaces of leaves, flowers and stems.

Exotic species: A species introduced to South Africa from other countries.

Firescaping: Landscaping in ways that will reduce the probability of fire catching and spreading through the ‘firescaped’ area (e.g. a garden).

Green infrastructure (GI): Natural and seminatural open spaces, natural ecological systems as well as ‘engineered’ ecological systems with other environmental features that integrate with the built environment to provide a wide range of ecological, community and infrastructure services. GI assets ideally form an interconnected network within the urban environment.

Green roof: A rooftop that is partially or completely covered in vegetation, which is growing directly in a medium (not in containers) on the roof over a waterproof membrane. To be distinguished from ‘roof garden’ (see below).

Green streets: Roads that include both natural and human-made green infrastructure to capture rainwater and direct it to plants and trees as a natural filter before the water makes its way into local waterways.

Hydrozone landscaping: The practice of grouping or clustering together plants with similar water requirements to conserve water. It enables watering or irrigation schedules to be customised for the needs of each area, improves water use efficiency, and avoids over or underwatering of plants.

Indigenous species: A species originating or occurring naturally in a certain geographic area or country. To be distinguished from ‘endemic species’ (see above).

Invasive alien species: A species included in the 2020 list of alien and invasive species (or amendments thereof) in terms of the 2004 National Environmental Management: Biodiversity Act (NEMBA). The establishment and spread of these species outside their natural range threatens (or has the potential to threaten) natural ecosystems, habitats or other species. They are difficult to control, and may cause harm to the environment, economies and/or human health.

Landscaping: The process of using plants and other materials to structure outdoor spaces to improve their aesthetic and functional value and make them more attractive.

Pollinator: An animal (e.g. bird or insect) that moves pollen from the male anther of a flower to the female stigma of a flower.

Rehabilitation: Actions undertaken in a degraded system to recover some of the value and function the system provided previously. To be distinguished from ‘restoration’ (see below).

Restoration: Actions undertaken to return a system to its full range of natural (historical) processes and functions.

Roof garden: A garden created on a roof by growing plants in containers.

Seed disperser: An animal that transports seeds away from a plant, thus enabling its spread to other areas.

Sustainable urban drainage system (SUDS): A collection of water management practices that are designed to drain surface water more sustainably than conventional engineered approaches. They often use built components to mimic natural features, thereby integrating urban drainage systems into natural ones.

Tree canopy: The upper layer or habitat zone formed by mature tree crowns. Also the extent of the outer layer of leaves of an individual tree or group of trees.

Tree management: The protection and maintenance of the existing tree asset base in the city, as well as the planning, planting and maintenance of new trees.

Urban forest: The sum of all trees growing in an urban area.

Urban green: The broad range of natural and green spaces and other blue-green assets that occur in the urban fabric. The urban green manifests itself at various

scales – from site/building (e.g. residential gardens, green roofs and green walls), through street and neighbourhood (e.g. street trees, verges, local parks, gardens, sports fields, greenbelts), to cities (e.g. regional parks, nature reserves and large inland waterbodies).

Urban heat island effect: The phenomenon where built-up urban areas experience higher temperatures than suburban or rural areas, sometimes being up to 5–15 °C warmer. This is because hard surfaces such as buildings, roads and other infrastructure absorb solar radiation during the day and release it as latent heat at night. Therefore, areas with a lot of hard surfacing are warmer than areas with more natural features such as vegetation and water.

Urban nature: Refers to outdoor spaces in and around the city that retain elements of nature to which residents can be exposed.

Watercourse: A river, spring, stream, channel or canal in which water flows regularly or intermittently. It includes a vlei, wetland, dam or lake into or from which water flows and, where relevant, includes the bed and banks of such watercourses.

Water-sensitive urban design (WSUD), also known as water-sensitive design (WSD): An approach to ensure that development in urban areas is holistically planned, designed, constructed and maintained so as to use water efficiently, reduce negative impacts on the natural water cycle, and protect aquatic ecosystems.

Wetland: Land that is transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and typically supports vegetation adapted to life in saturated soils. Wetlands often facilitate a connection between surface and groundwater.

Xeriscaping: A landscaping method developed especially for areas susceptible to drought and where water conservation techniques (such as the use of drought-tolerant plants, mulch, and efficient irrigation) are used.

GUIDELINE 1:

PROTECT AND ENHANCE AN INTERCONNECTED NETWORK OF GREEN ASSETS

An ideal urban landscape consists of the built environment and an interconnected system of natural and green open spaces, including watercourses, which, together with other green assets such as trees, provide us with important ecosystem services.

In most cities, natural systems and the need to integrate them are not considered a priority. This causes fragmentation and habitat loss, often exacerbated by inappropriate development and land use, as well as invasive alien species.

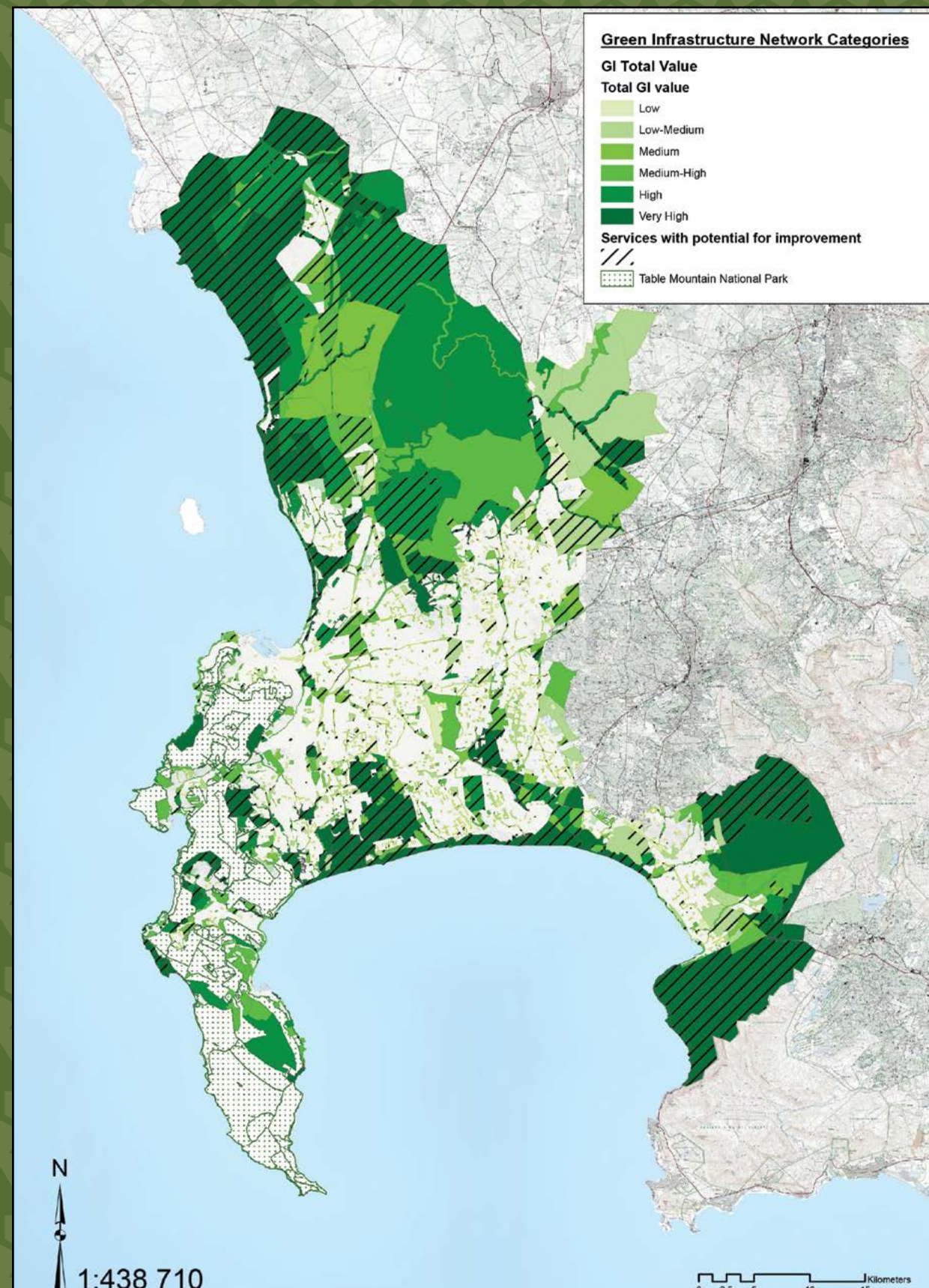
Even though there is significant fragmentation in Cape Town, the city still has an abundance of green spaces - from large features such as Table Mountain and City nature reserves, to small pocket parks and gardens. Combined, these spaces create a green network or web that provides a wide range of ecological, infrastructural and community services.

In Cape Town, natural and green open spaces have been mapped together with green corridors to prepare a Green Infrastructure Network (GINet). The GINet will help inform location and design decisions when development activities are considered and planned to minimise the impact on and enhance ecosystem service provision. The retention, creation or enhancement of corridors is crucial to ensure a connection between natural and green spaces.

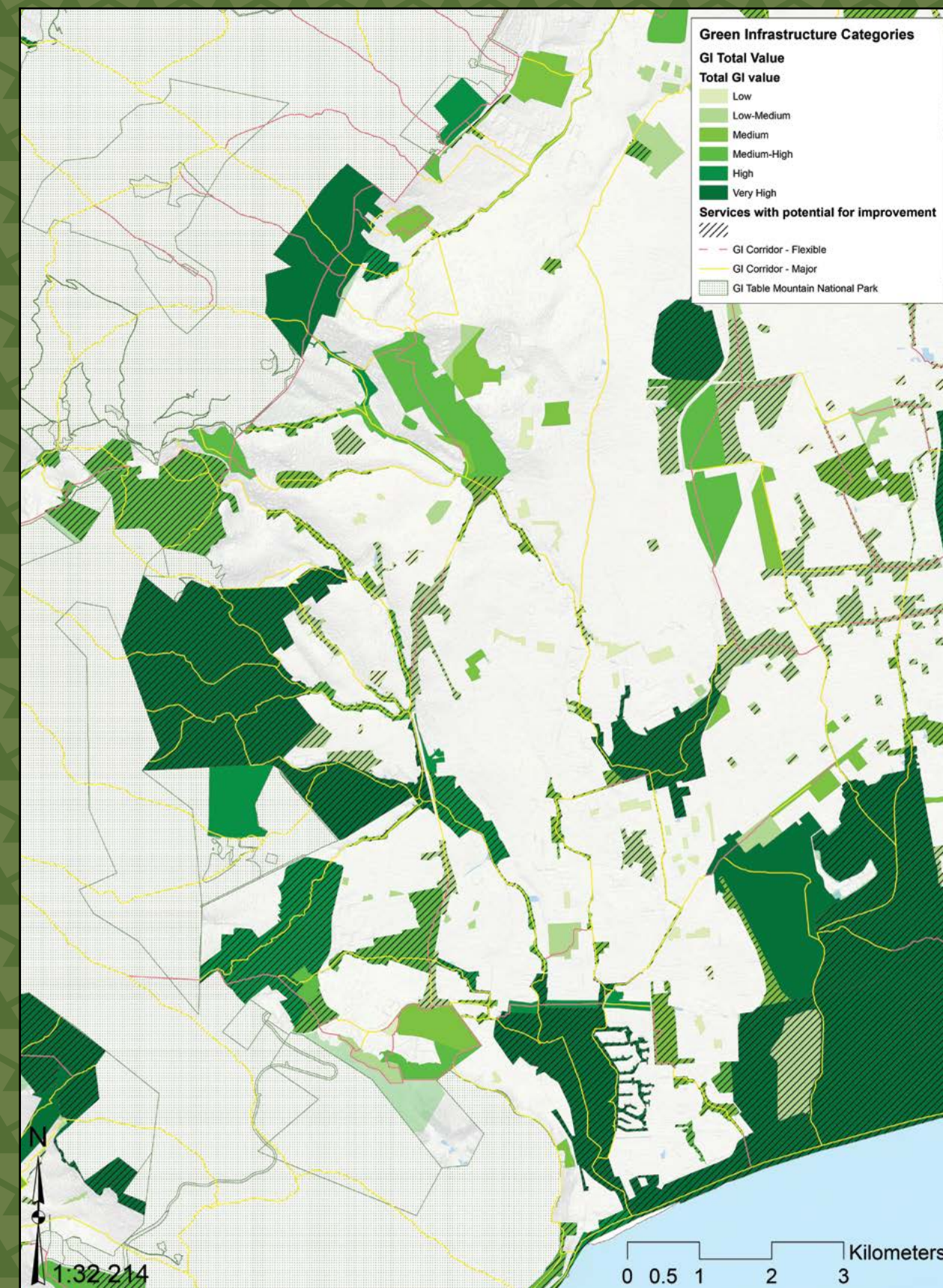
Corridors may be natural (e.g. watercourses) or aligned with seminatural (e.g. utility servitudes) or built infrastructure features (e.g. railways or road reserves). They occur at different scales - from multifunctional linear features that aim to avoid habitat fragmentation and provide important connector-functions for wildlife and people, to tree or vegetation-lined streets, or gardens in the built environment that can function as stepping stones and habitat for flora and fauna.



Figure 2: Integrating green elements into urban design layouts enhances sustainability and liveability, fostering healthier environments for residents while promoting biodiversity and ecological resilience.



Map 1: The Green Infrastructure Network 2021 layer on CityMap Viewer.



Map 2: Green corridors, a component of green infrastructure, ensure connectivity between natural spaces in urban areas.

- 1.1 Protect and enhance environmental resources and ecologically sensitive areas, ensuring that these are suitably integrated into the design of new developments, and that appropriate setbacks and buffers are incorporated. (For information on watercourse buffers, see the [Green Infrastructure Programme \(GIP\) guidelines on urban watercourses](#).)
- 1.2 Ensure that buildings relate positively to natural and green open spaces through the arrangement of the built form and a positive interface with adjacent areas. For instance, construct buildings to face onto and overlook open areas, and use visually permeable fencing on the boundary where needed. This prevents buildings that ‘turn their back’ on open spaces and helps improve passive surveillance and oversight, which boosts safety and security in the open space.
- 1.3 Ensure the continuity of the city's open space network by arranging development and new open spaces so as to retain or provide viable and meaningful spatial connections, supporting biodiversity and other functions, including recreation.
- 1.4 Continue to maintain green assets that are in a good state, but also focus on improving those that are in a poor condition.
- 1.5 Retain, provide and enhance green spaces in a sustainable manner to provide quality open spaces with equitable access to all, contributing to quality of life and the enhancement of Cape Town's communities. The (potential) public open space value of publicly owned green space should always be considered prior to lease or disposal.
- 1.6 Look for opportunities to create linkages between areas of urban green, especially in built-up environments. The development of ‘green streets’, which incorporate sustainable urban drainage systems (SUDS) approaches, provides for a cost-effective and resilient approach to managing stormwater and offers social, economic and environmental benefits.
- 1.7 If a development area includes a GINet-identified corridor, the position and development of the site should take cognisance of the green corridor, with particular consideration of the following:
 - How to make the corridor a feature of the development
 - How to incorporate the corridor into the landscape plan for the development
 - What species or vegetation types would be most appropriate to use to enhance the corridor
 - What opportunities there are to integrate non-motorised transport (NMT) (e.g. pedestrian walkways and/or cycleways) with the corridor
 - What opportunities exist to incorporate SUDS and create green streets
 - Use of permeable fencing to enable biodiversity connectivity, especially for small faunal movement, and to allow for water flow, where appropriate
 - Building design and layout to face onto the corridor, thereby optimising passive surveillance
 - If the corridor includes a watercourse, how to incorporate and implement Liveable Urban Waterways principles (see guideline 7)
 - If there are canalised river segments in the corridor, what opportunity exists to restore the river to a non-canalised or partially canalised state, or for the canal edges to be softened by landscaping interventions (see [GIP guidelines on urban watercourses](#))
 - What opportunity exists to maintain or create connectivity across roads, especially in the case of main corridors. This is particularly important to facilitate wildlife migration and reduce roadkill where roads bisect natural areas. Conduits such as underpasses or tunnels can help animals cross roads safely.

Figure 3: How properties interface with public open space and watercourses is important. Visually permeable boundary treatments, rather than solid walls, and buildings facing onto, rather than away from, public open space and watercourses enhance the interface and provide for passive surveillance. Permeable boundary treatments also enable water and faunal movement.



- 1.8 When managing corridors, the nature of the corridor and what it supports needs to be taken into account. For example:
- It is best to pause mowing of certain road reserves and other corridors in spring if these support indigenous flora that may be flowering or seeding.
 - Varying the times of management interventions should also be considered, as this can enable different seasonal flora to flower and seed.
 - In watercourse corridors, reed-clearing activities need to take cognisance of nesting birds and breeding amphibians, and operations should be timed accordingly. In general, it is best to undertake reed-clearing activities between January and June.
 - In areas where the western leopard toad (*Sclerophrys pantherina*) occurs, maintenance activities along watercourse corridors are generally restricted between 1 July and 31 December so as not to disturb breeding migration and toadlet emergence (see [GIP guidelines on urban watercourses](#)).
- 1.9 Retain, maintain and enhance the city's tree canopy cover by protecting all existing trees (especially significant and mature trees), that contribute to the urban landscape, and planting appropriate new ones (see [guideline 4](#)).
- 1.10 Use patterns of tree planting, as appropriate, to fill in gaps and create tree corridor continuity, or to reinforce connections between defined areas, while also considering tree species diversity to support resilience (see [guideline 4](#)). The function of the trees to be planted should also be considered.
- 1.11 When planting trees in built-up areas, it is vital to ensure a deep soil zone, where the tree roots will be able to intercept available groundwater (i.e. avoid planting in areas that overlay a constructed component, such as a basement). Locating deep soil zones is encouraged in key communal outdoor space areas or anywhere else where a large tree will benefit the maximum number of people and contribute to the public realm.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key City policies, by-laws and plans relevant to this guideline:

- | | |
|---|--|
| • Municipal Spatial Development Framework (MSDF), 2022 | • Bioregional Plan for Cape Town, 2015 |
| • Integrated District Spatial Development Frameworks-Environmental Management Frameworks DSDFs-EMFs, 2023 | • Integrated Coastal Management Policy, 2014 |
| • Urban Design Policy, 2024 | • Parks Development Policy, 2015 |
| • Water Strategy, 2019 | • Urban Forest Policy, 2023 |
| • Climate Change Strategy, 2021 | • Municipal Planning By-law, 2015 (as amended) |
| • Climate Change Action Plan, 2021 | • Streets, Public Places and Prevention of Nuisance Noise By-law, 2007 |
| • Resilience Strategy, 2018 | • Public Parks By-law, 2005 |
| • Environmental Strategy, 2017 | • Local Biodiversity Strategy and Action Plan (LBSAP), 2019 |
| • Floodplain and River Corridor Management Policy, 2009 | • Nature Reserve By-law, 2020 |
| | • Scenic Drive Management Plan, 2003 |



Keyers River forms part of a corridor that links Table Mountain with Zandvlei Estuary.

GUIDELINE 2:

PROTECT AND RESTORE CAPE TOWN'S BIODIVERSITY NETWORK

Cape Town is one of the world's 36 biodiversity hotspots and is regarded as the world's most biodiverse city. Both endangered and critically endangered plants are found in many different locations in the urban fabric, including on road verges, in road reserves, public open spaces and nature reserves. The city contains 20 different vegetation types, seven of which are endemic to Cape Town and, therefore, not found anywhere else in the world. Unfortunately, many of the vegetation types are under serious threat due to habitat loss, primarily because of inappropriate development, agriculture and invasive alien species.

In response to the threat to our globally significant biodiversity, Council has adopted the Bioregional Plan for Cape Town, which includes the Biodiversity Network (BioNet), as City policy. The BioNet, the fine scale systematic biodiversity plan, identifies and prioritises areas of biodiversity importance in Cape Town in relation to set targets and for the preservation of biodiversity patterns and processes. Both terrestrial and aquatic elements are included in the BioNet, which aims to ensure that a representative sample of biodiversity is protected to meet national targets for vegetation types in the city. At the same time, the BioNet seeks to promote sustainability and climate resilience.

If we fail to conserve our important biodiversity, we will not only lose species, which may result in species extinction, but will also be deprived of the ecosystem services provided by our biodiversity, along with the opportunities those services bring.

- 2.1 The critical biodiversity areas (CBAs) identified in the BioNet have no formal protected status (compared to nature reserves or conservation areas), but are critical to conserve in order to meet biodiversity targets and maintain ecosystem functioning. Critical ecological support areas (CESAs) and other ecological support areas (OESAs), in turn, help support ecological connectivity and ecosystem function. Loss of connectivity areas may make critical remnants ecologically less viable.

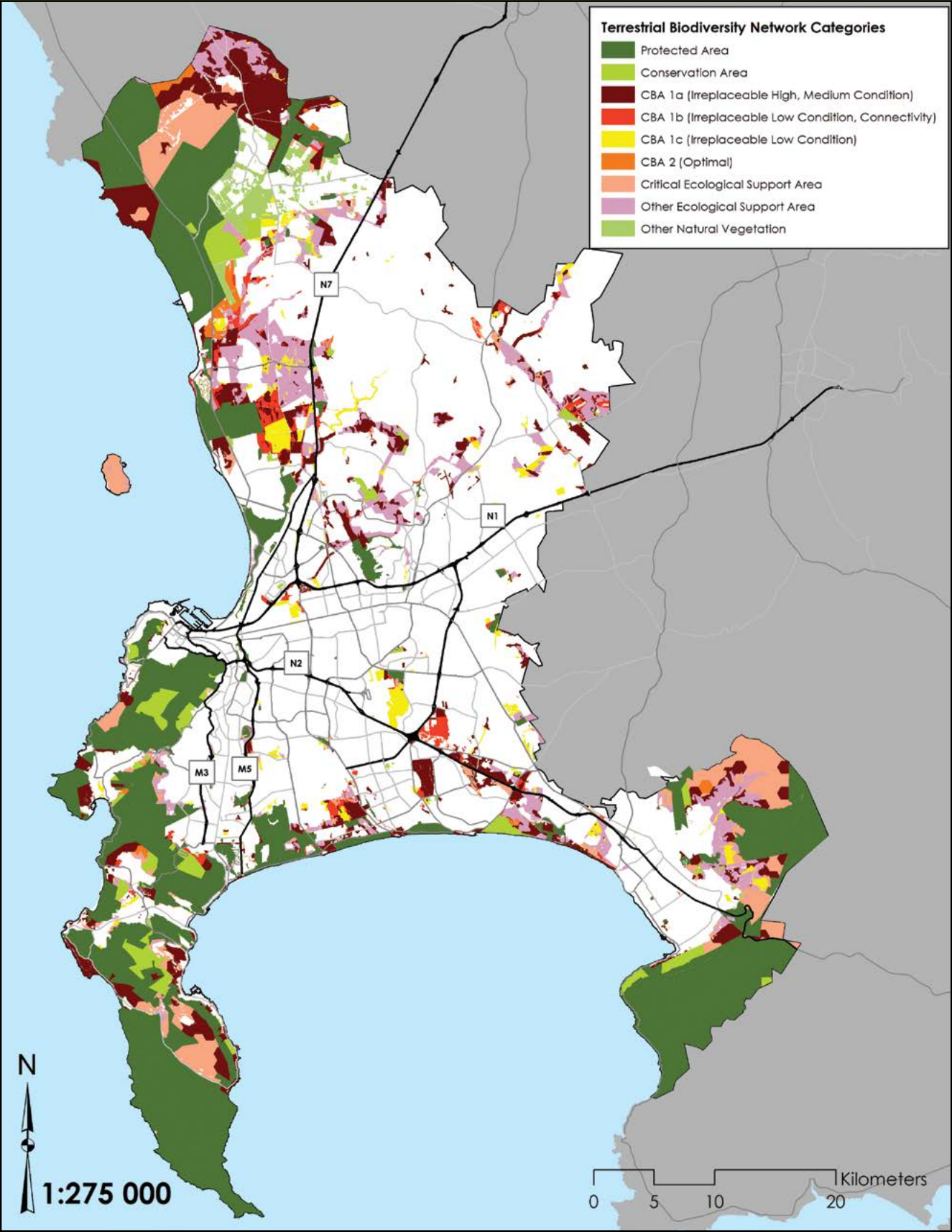


Figure 4: a) Cape Town's rich biodiversity is exemplified by the common sugarbush (*Protea repens*), b) the endangered western leopard toad (*Sclerophrys pantherina*), and c) ongoing efforts, by the City and civil society groups to rehabilitate open spaces.

- 2.2 BioNet information is available on the City's Open Data Portal (<https://odp-cctegis.opendata.arcgis.com/>) and the BioNet/Biodiversity Network layer on CityMap Viewer (<https://citymaps.capetown.gov.za/EGISViewer/>; using the 'Identify' spatial tab).
- 2.3 The clearance of 300 m² or more of indigenous vegetation in threatened ecosystems or on land zoned for conservation or open-space purposes, as well as the clearance of an area of 1 ha or more of indigenous vegetation, may require an environmental authorisation application to the relevant competent authority in terms of the regulations on environmental impact assessments (EIAs) (2014, as amended) of the National Environmental Management Act (NEMA) 107 of 1998. The competent authority may be Province's Department of Environmental Affairs and Development Planning (DEA&DP) or the national Department of Forestry, Fisheries and the Environment (DFFE). (See **annexure A** for information on the specific vegetation-clearing provisions in the EIA regulations.) Any conditions imposed in terms of an authorisation must be adhered to.
- 2.4 Leases or disposal of City land within the BioNet, such as for landscaping or gardening, are generally not supported.
- 2.5 Actions or activities that will result in loss and fragmentation of the BioNet are not desirable and are discouraged.
- 2.6 The NEMA mitigation hierarchy, namely avoid, minimise, mitigate and (as a last resort) offset loss, should be followed.
- 2.7 Where development proposals or activities will affect the BioNet specifically or biodiversity in general, all reasonable mitigation measures must be taken to prevent or minimise the negative impacts. These could include consideration of development layout and form, preparation of a biodiversity restoration and/or rehabilitation plan, and/or retention and protection of topsoil for post-construction use.
- 2.8 A site environmental management plan (SEMP), an operational environmental management plan (OEMP), a construction method statement (CMS) or a maintenance management plan (MMP) may also be requested as applicable to ensure that remaining indigenous vegetation is protected. A CMS should also provide for the search and rescue of fauna, including burrowing fauna such as golden moles (*Chrysochloris spp.*) and rain frogs (*Breviceps spp.*).



Figure 5: The Skilpadsvlei wetland rehabilitation project is an excellent example of ecosystem restoration, transforming a previously filled-in wetland into a functional ecosystem and recreational space.



Map 3: Terrestrial Biodiversity Network 2023 displaying prioritisation of indigenous vegetation remnants in the city.

- 2.9 Where it is impossible and impractical to retain vegetation on-site (or on the portion of a site to be developed), search-and-rescue options should be pursued to recover material, including plants, bulbs, seeds and topsoil, for use in restoration in other areas.
- 2.10 Landowners and residents close or adjacent to areas falling within the BioNet should be conscious that their actions could have a direct impact on these important conservation areas or critical biodiversity remnants. **See guideline 11** for more on ‘reserve-friendly’ practices.
- 2.11 Invasive alien vegetation is a major threat to our biodiversity, especially given its rapid proliferation. These species need to be removed, controlled or managed in line with the regulations on alien and invasive species (2020, or amendments thereof) under the National Environmental Management Biodiversity Act (NEMBA) 10 of 2004 (**see guideline 3**).
- 2.12 Landowners and residents close or adjacent to biodiversity areas also need to be mindful of the risk of fire, and take measures to minimise this risk. Fire prevention measures to minimise wildfire risk are a legal requirement under the National Veld and Forest Fire Act 101 of 1998. Also **see guideline 10** for more information on how to ‘firescape’ your property, as well as **guideline 11** regarding key considerations when living near a nature reserve.
- 2.13 Numerous community and other groups actively contribute to the protection and enhancement of our biodiversity through participation in invasive alien plant hacks and species occurrence monitoring (e.g. the activities of the Botanical Society of South Africa (BotSoc), Custodians of Rare and Endangered Wildflowers (CREW), or Friends groups) (**see guideline 13**).
- 2.14 Illegal harvesting of plant materials (including the harvesting of flowers, digging up of bulbs, and bark stripping), illegal sand mining, illegal dumping and unlawful land occupation pose a major threat to our biodiversity. It is important to report any illegal actions that you may be aware of so that appropriate action can be taken. (**See annexure B** for some useful contact details.) To discourage illegal harvesting, do not purchase flowers or other natural resources that have not been harvested legally with the required permits.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws and plans relevant to this guideline:

- National Environmental Management Act (NEMA) 107 of 1998
- NEMA EIA regulations, 2014 (as amended)
- NEMA EIA regulations listing notices 1, 2 and 3
- National Environmental Management: Biodiversity Act (NEMBA) 10 of 2004
- NEMBA invasive and alien species regulations, 2020 (as amended)
- National Environmental Management: Protected Areas Act (NEMPAA) 57 of 2003
- National Veld and Forest Fire Act 101 of 1998
- Western Cape Biodiversity Act 6 of 2021
- Environmental Strategy, 2017
- Bioregional Plan for Cape Town, 2015
- Local Biodiversity Strategy and Action Plan (LBSAP), 2019
- Nature Reserve By-law, 2020



Learners helping with restoration planting at Princess Vlei. Photo by Princess Vlei Forum

GUIDELINE 3:

ENSURE EFFECTIVE CONTROL OF INVASIVE ALIEN SPECIES

Invasive alien species (IAS) are plants, animals or other organisms that are introduced into places outside their natural range and have a negative impact on local biodiversity, ecosystem services and/or human well-being. They are one of the biggest causes of biodiversity loss and species extinction, as they outcompete, hybridise with or prey on indigenous or exotic (non-invasive alien) species. They also pose a significant threat to the productive use of land and water, the ecological functioning of natural systems, our resilience and adaptation to climate change, and the economy.

As many of the woody invasive alien plants (IAPs) consume more water than indigenous plants, they use up valuable and limited water resources, including groundwater. They also tend to result in more severe fires than indigenous species, which can affect the soil structure. IAPs tend to spread rapidly, and their seeds can remain viable for many years. They are also often toxic to people and animals.

The IAS problem is being compounded by climate change, which helps facilitate the spread and establishment of many alien species and creates new opportunities for them to become invasive. IAS can also make natural habitats, agricultural systems and urban areas less resilient to climate change.

It is important to note that not all alien plant species are intrinsically bad. Many non-invasive alien species, often called 'exotic species', constitute an important component of our urban green fabric and need to be retained. Being non-invasive, these exotic species do not proliferate rapidly, nor are they likely to spread into sensitive biodiversity or water catchment areas.

Of course, IAS also includes some invasive animal species that are of concern and require monitoring and management. One such species of emerging concern is the polyphagous shot hole borer (PSHB), a tiny invasive beetle from Asia. It is less than 2 mm in size (the size of a sesame seed) and first arrived in South Africa in 2012. It was first recorded in the city in 2019 and poses a significant threat to our urban tree canopy. The beetle infests both exotic and indigenous trees, including many of the exotic species forming part of Cape Town's cultural landscape, such as London plane trees (*Platanus acerifolia*) and English oaks (*Quercus robur*), as well as important agricultural trees such as apples, pears, stone fruits and avocados (see guideline 4). Until early 2023, PSHB was largely confined to the Somerset West area, with some sightings in Stellenbosch and a few locations along the R44. In January 2023, however, it was spotted in Newlands and has subsequently been identified in various other areas of the southern suburbs, including Rondebosch, Mowbray, Wynberg, Claremont, Kenilworth and Observatory. Focused action is being taken to control this threat and ensure that it does not spread to other areas of Cape Town.



Figure 6: Civil society actively working to remove woody invasive alien species.

- 3.1 Public awareness, communication and education are key to winning the battle against IAS. Learn to identify and control IAPs on your own property. See https://resource.capetown.gov.za/documentcentre/Documents/Procedures,%20guidelines%20and%20regulations/Invasive_plants_Identikit.pdf for an 'identikit' of some invasive plant species.
- 3.2 The control of IAPs is regulated by both NEMBA and the Conservation of Agricultural Resources Act (CARA) 43 of 1983. Depending on various factors, including the species, degree of concern, and location, different obligations for eradication or control apply to various category lists of species. CARA is mostly used in the agricultural sector and is not generally enforced in the urban context, while the NEMBA regulations do apply in the urban environment. Consult <http://invasives.org.za/legislation/what-does-the-law-say> for information on invasive species legislation, including the regulations and the alien and invasive species lists.
- 3.3 The 2020 alien and invasive species list, issued in terms of the NEMBA regulations, divides invader plants into four different categories, each requiring specific actions. These are:
- category 1a (combat or eradicate);
 - category 1b (control; where possible, remove and destroy);
 - category 2 (permit required); and
 - category 3 (exempt, except if found in riparian areas).
- 3.4 If a NEMBA category 1a species is found on a property, the landowner must immediately notify Biosecurity Services and the City's Invasive Species Unit (ISU) in writing. (**See annexure B** for contact details.) The landowner must take immediate steps to eradicate or control the species and prevent it from spreading, while also preventing or minimising harm to biodiversity.
- 3.5 A NEMBA category 1b species must be controlled, and where possible, removed and destroyed. Landowners are responsible for controlling these species on their properties.



- 3.6 Any NEMBA category 2 species requires a permit to carry out restricted activities (such as processing, growing or propagating), and all necessary precautions need to be taken to prevent the spread of the species from the permitted area. Any category 2 species found outside its permitted area is regarded as a category 1b species and must be controlled and, where possible, removed and destroyed.
- 3.7 NEMBA category 3 species are generally ornamental and may be retained, but no new planting, trade or propagation of these plants is permitted.
- 3.8 Any category 3 species that occurs in a riparian zone is regarded as a category 1b species and must be controlled and, where possible, removed and destroyed.
- 3.9 Any actions to control weeds or invasive plants should be undertaken by means of recognised techniques and approaches, and must be executed in a manner that will have minimal environmental impact. More information on control methods can be obtained at <https://www.arc.agric.za/arc-ppri/weeds/Pages/Management-of-invasive-alien-plants.aspx>. Alternatively, consult the City's ISU or an appropriately qualified specialist. (**See annexure B** for contact details.)
- 3.10 To establish the invasive nature and/or listed category of a plant species, consult <https://invasives.org.za/fact-sheet/>. Go to 'Plants A-Z', and enter the plant's name.
- 3.11 It is always easiest to remove IAPs when they are still small or young, so it is important to be vigilant and react as early as possible when they are detected.
- 3.12 Join or form a 'hacking team' to control IAPs in your area. Remember to obtain written landowner permission in advance if the plants are located on someone else's land (**see guideline 13**).
- 3.13 Early detection and rapid response (EDRR) can stop the spread of new and emerging invasive species before they become established. Cape Town's EDRR programme has identified 25 target plant species that could become invasive (**see annexure E**). If you spot any of the EDRR target species, report them to the City's ISU on **021 444 2357**. Alternatively, email invasive.species@capetown.gov.za or log a [C3 service request](#).
- 3.14 IAPs can be a liability to landowners. When selling your property, you should notify the purchaser in writing of the presence of listed invasive species on the property before you conclude the sale. A declaration-of-invasive-species form needs to be lodged with the compliance officer of DFFE's Biosecurity Services at 14 Loop Street, Cape Town (AIScompliance@environment.gov.za).

THE CASE OF THE POLYPHAGOUS SHOT HOLE BORER



Of great concern to the health of many of the tree species prevalent in our urban fabric is the polyphagous shot hole borer (PSHB) (*Euwallacea fornicatus*), a tiny invasive beetle that infests both exotic and indigenous trees (see guideline 4). The PSHB bores tunnels in the trunks and branches of host trees and carries the *Fusarium euwallaceae* fungus, which serves as its food source, from one tree to another. This fungus disrupts the flow of water and nutrients to the tree, causing dieback and/or tree death.

In reproductive host trees, the beetle lays its eggs inside the tunnels and establishes breeding galleries, with the larvae and adult beetles fed by the prolifically growing fungus. The reproductive host will eventually be killed by the fungus. In non-reproductive host trees, the beetles do not establish breeding galleries, the fungus may or may not cause disease, and the trees generally do not die.

To identify PSHB, look out for:

- round entry holes on the tree, less than 2 mm wide;
- dark, wet staining, thick gumming, streaks of white powder, or fine sawdust coming out of the holes; and
- dieback, i.e. dead branches with wilting leaves.

Report any suspected PSHB sighting, irrespective of its location in Cape Town, to the City's ISU on 021 444 2357. Alternatively, email invasive.species@capetown.gov.za or log a [C3 service request](#). Officials from the ISU and an arborist from the Recreation and Parks Department will investigate.

Do not remove and dispose of any trees or wood from trees that are suspected to have been infested without first reporting the tree and having it evaluated by a specialist. If PSHB is confirmed, specific protocols need to be followed for the removal and disposal of the tree. Transportation of infected wood in particular poses a major risk of spread of the beetle.

For more on the PSHB, including a list of suitable species with which to replace infested trees, consult <https://www.capetown.gov.za/City-Connect/Activities-and-programmes/Nature-and-environment/invasive-species-programme>.

Data on PSHB beetle sightings are available on https://odp-cctegis.opendata.arcgis.com/datasets/4ea4a97a40744b90a99e87a66270b6be_182/about.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation and City policies and plans relevant to this guideline:

- | | |
|---|--|
| <ul style="list-style-type: none">• National Environmental Management: Biodiversity Act (NEMBA) 10 of 2004• NEMBA invasive and alien species regulations, 2020 (as amended)• Conservation of Agricultural Resources Act (CARA) 43 of 1983 | <ul style="list-style-type: none">• CARA regulations, 1984 (as amended)• Environmental Strategy, 2017• Local Biodiversity Strategy and Action Plan (LBSAP), 2019 |
|---|--|



Water hyacinth (*Eichhornia crassipes*), an aquatic invasive alien species, being cleared from the Black River.

GUIDELINE 4:

PROTECT APPROPRIATE EXISTING TREES, AND PLANT APPROPRIATE NEW TREES TO MAINTAIN AND ENHANCE THE URBAN FOREST

Trees are a key component of our urban green fabric and form part of Cape Town's cultural and aesthetic backdrop. Trees have a large part to play in making Cape Town a resilient city that can adapt to climate change. Whether indigenous or exotic, trees collectively form part of our urban forest and offer valuable social, ecological and economic benefits, including cooling and providing shade, creating memorable spaces, softening and lending 'human scale' to buildings, absorbing carbon and producing oxygen, creating habitats and refuge for species, and providing livelihood value.

Nevertheless, certain tree species are listed as invasive aliens. By law, these may not be planted, and must be removed or controlled, as they pose a threat to our natural resources, and in some instances, to our urban infrastructure (see guideline 3).

It is important to retain existing healthy trees, especially mature ones. These are often landmark features, lending a sense of place and history to a space, along with biophysical benefits such as providing habitat and shade, intercepting wind and rain, capturing pollution, and absorbing traffic noise.

In addition to retaining and maintaining existing trees, we also need to plant and nurture new trees in order to add to our urban forest canopy and increase the benefits it offers.

In 2020, Cape Town's tree canopy cover in the urban area stood at 7%, and all efforts need to be made to retain and increase this. Yet it should also be acknowledged that most of the natural vegetation types in Cape Town are tree-poor, and biophysical conditions in many geographic locations are often inhospitable to tree growth. However, there are still plenty of opportunities to plant and nurture trees in and around our homes, in parks, parking areas, on street verges or in road medians, and at schools and sports fields. Always ensure that there is landowner permission prior to planting a tree.

The [GIP guidelines on trees](#) provides information relating to tree planting, management and maintenance, as well as the legislative and regulatory framework regarding trees. Please consult the guidelines for more detailed information.

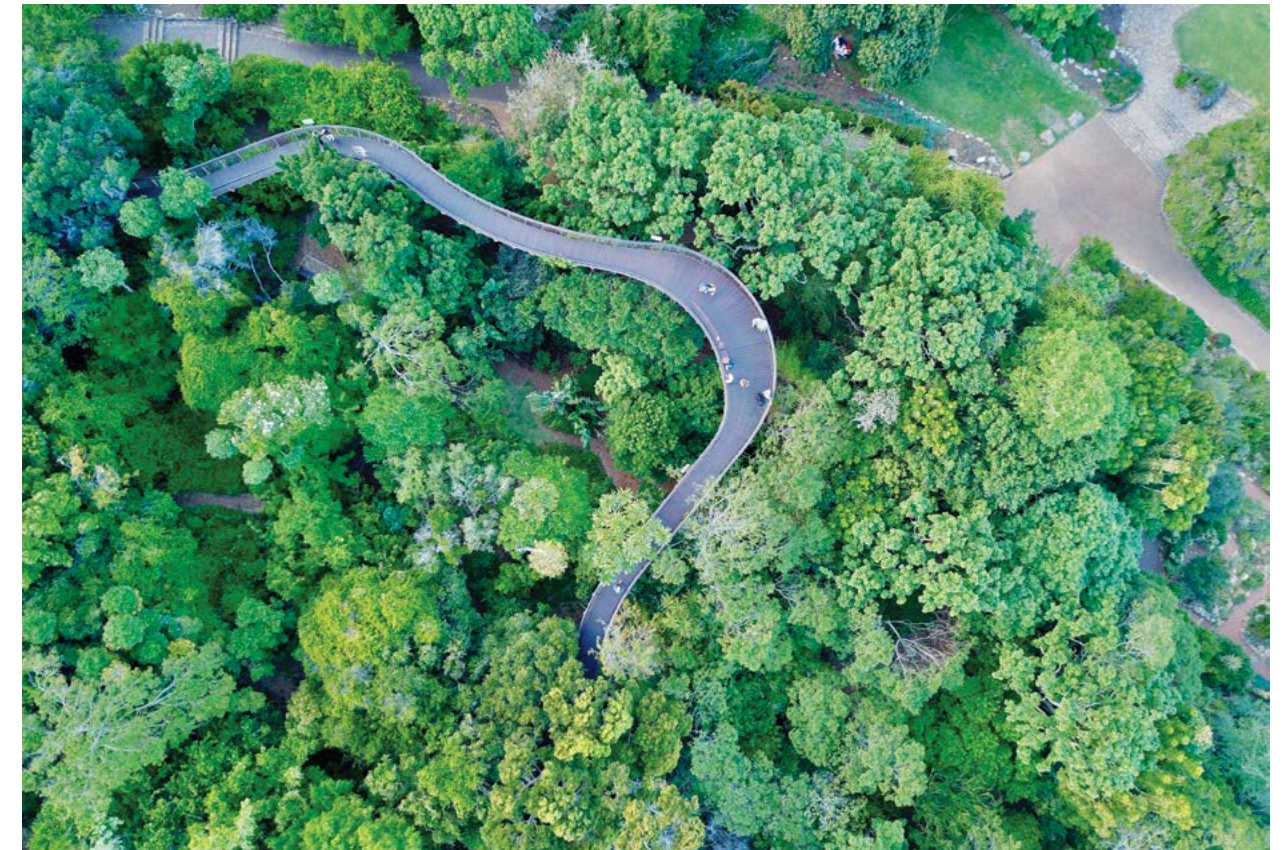


Figure 8: Trees are integral to Cape Town's urban landscape, offering numerous benefits such as cooling the city, providing shade, absorbing carbon, and producing oxygen.

- 4.1 South Africa currently has 51 protected tree species in terms of the National Forests Act 84 of 1998 (see annexure C). These may not be cut, destroyed, damaged or removed, nor may the trees or their products be collected, removed, exported or donated without a licence that has been granted by DFFE.
- 4.2 A number of other restrictions also apply to trees and their protection. These pertain to listed champion trees, trees in areas designated as heritage areas or located in a heritage protection overlay zone (HPOZ), trees affected by development activities that trigger section 38(1) of the National Heritage Resources Act 25 of 1999, or trees on City land. Some trees may also be protected through title deeds, planning approval conditions, or town planning schemes. See the [GIP guidelines on trees](#) for more information on protective restrictions.
- 4.3 Consider nominating mature trees that are of value to your community or the broader public as champion trees. Nominations are submitted to DFFE. If the designation is granted, the trees enjoy the same protection as formally protected tree species. Since the national champion tree list is meant to include only a very limited number of trees, the City's Recreation and Parks Department has initiated a project to identify and document significant trees across Cape Town. Residents may nominate a mature tree or group or avenue of trees. (See annexure B for the relevant contact details.)
- 4.4 Only remove a tree if absolutely necessary and if it poses an unmanageable risk to people, property, infrastructure or services. Always seek legal and responsible alternative solutions before felling a tree.



Photo by TreeKeepers

Figure 9: Painting the trunks of trees at risk of being bark-stripped with a PVA paint mixture is a preventative measure that renders the bark unattractive for harvesting.



Figure 10: Segmenting boundary walls with tree-friendly fencing or stepping back walls allows for tree retention and contributes to the city's green infrastructure.

- 4.5 Alternative solutions to felling a tree include exploring design options (e.g. alternative access or building layout to accommodate mature trees on or adjacent to the site, segmenting boundary walls with tree-friendly fencing, or 'stepping back' walls around the tree), pruning branches (e.g. to let in more light or open up a view), pruning roots and redirecting growth, or even transplanting smaller trees. An arborist or skilled tree worker can advise on an appropriate approach, especially in relation to pruning or transplanting.
- 4.6 There are various methods for pruning trees, depending on the site requirements, tree species and condition. It is important that pruning is done correctly. Lopping and topping of trees should be avoided at all costs.
- 4.7 Trees on construction sites need to be protected from unnecessary or unforeseen damage as a result of construction work.
- 4.8 It is particularly important to protect tree roots that fall within the canopy's dripline (the 'critical root zone'). Damage to these important roots, for instance through excavation or compaction, will affect the health and vigour of the tree and will likely compromise its survival.
- 4.9 The conditions required for tree planting are integral to the design, planning and construction of all projects, and should be approached as such. Early coordination between the tree planting plan and utilities is particularly important.
- 4.10 Refrain from paving or hardening surfaces too close to the tree trunk, as this reduces penetration of water, air and biological activity to the roots. Make tree pits or tree wells as large as possible. If necessary, these could be covered with a tree grid to ensure pedestrian safety, while still allowing for the soil-air interface.

- 4.11 Consider ways to irrigate trees passively by using stormwater runoff, thereby reducing watering requirements.
- 4.12 Trees may be incorporated into a SUDS approach, which can be designed so that stormwater is directed towards tree pits and can also provide for bioretention.
- 4.13 The planting of appropriate, resilient tree species is encouraged in all new and existing developments.
- 4.14 The greater the variety of suitable species planted, the greater the biodiversity benefit. Species diversification also increases resilience to urban forest loss, making the urban forest less susceptible to impacts of disease or pests that affect specific tree species, or changed climate conditions.
- 4.15 As far as possible, plant water-wise indigenous trees. However, exotic species that are non-invasive, water-wise and suited to local conditions may also be suitable. **See annexure D** for a list of tree species suitable for Cape Town and various contexts.
- 4.16 Consider a suitable mix of deciduous and evergreen trees based on their preferred location and amount of sunlight. Deciduous trees offer shade and cooling in summer, but let sunlight through in winter, which could potentially reduce cooling and heating costs. Evergreen trees are useful for certain specific wind-breaking and decorative purposes, and they provide year-round shade. When planting deciduous trees, however, be careful that leaf fall does not cause blockages to stormwater infrastructure, which can result in flooding.
- 4.17 As a general rule, plant as big a tree as possible, and preferably into the ground rather than in a planter or pot.
- 4.18 In gardens, consider planting trees that bear fruit or nuts that the household can use.
- 4.19 When planting trees in Cape Town, it is best to do so during the higher rainfall months of late autumn and winter. This reduces the need for watering or irrigation and helps the tree establish before the hot summer months.
- 4.20 Watering of trees during the hot, dry and windy summer months is critical for at least the first three years of establishment. Symptoms of a water-stressed tree include out-of-season leaf dropping, no fruit, dieback of stems, and reduced growth of new leaves.
- 4.21 To plant a tree on City land, including street verges, public places and parks, you require the City's written permission. Among others, this is to ensure that suitable trees are planted, and that the necessary wayleave permission is in place so that underground services are not affected.
- 4.22 Since the polyphagous shot hole borer (PSHB) poses such a major threat to our urban trees (both indigenous and exotic), be aware of signs of infestation, and take appropriate action if any of the signs are spotted (**see guideline 3**). Also consider the tree species that have been identified as hosts, particularly reproductive hosts, and rather opt for other species to 'future-proof' our urban forest against this destructive beetle. Exotic trees that have been infected to date include the London plane (*Platanus acerifolia*), sweetgum or liquidambar (*Liquidambar styraciflua*), Japanese maple (*Acer palmatum*), Chinese maple (*Acer buergerianum*), pin oak (*Quercus palustris*) and English oak (*Quercus robur*). Indigenous trees infested to date include the coast coral tree (*Erythrina caffra*), the forest bush willow (*Combretum kraussii*), the Cape willow (*Salix mucronata*) and the keurboom (*Virgilia oroboides*). Important agricultural trees such as apples, pears, stone fruit and avocados have also been affected. For a list of tree species affected by the PSHB, visit <https://www.fabinet.up.ac.za/index.php/research-groups/pshb-new/background-info/host-trees>. The list is updated regularly as new information becomes available.

FIGURE 11: TREE PRUNING

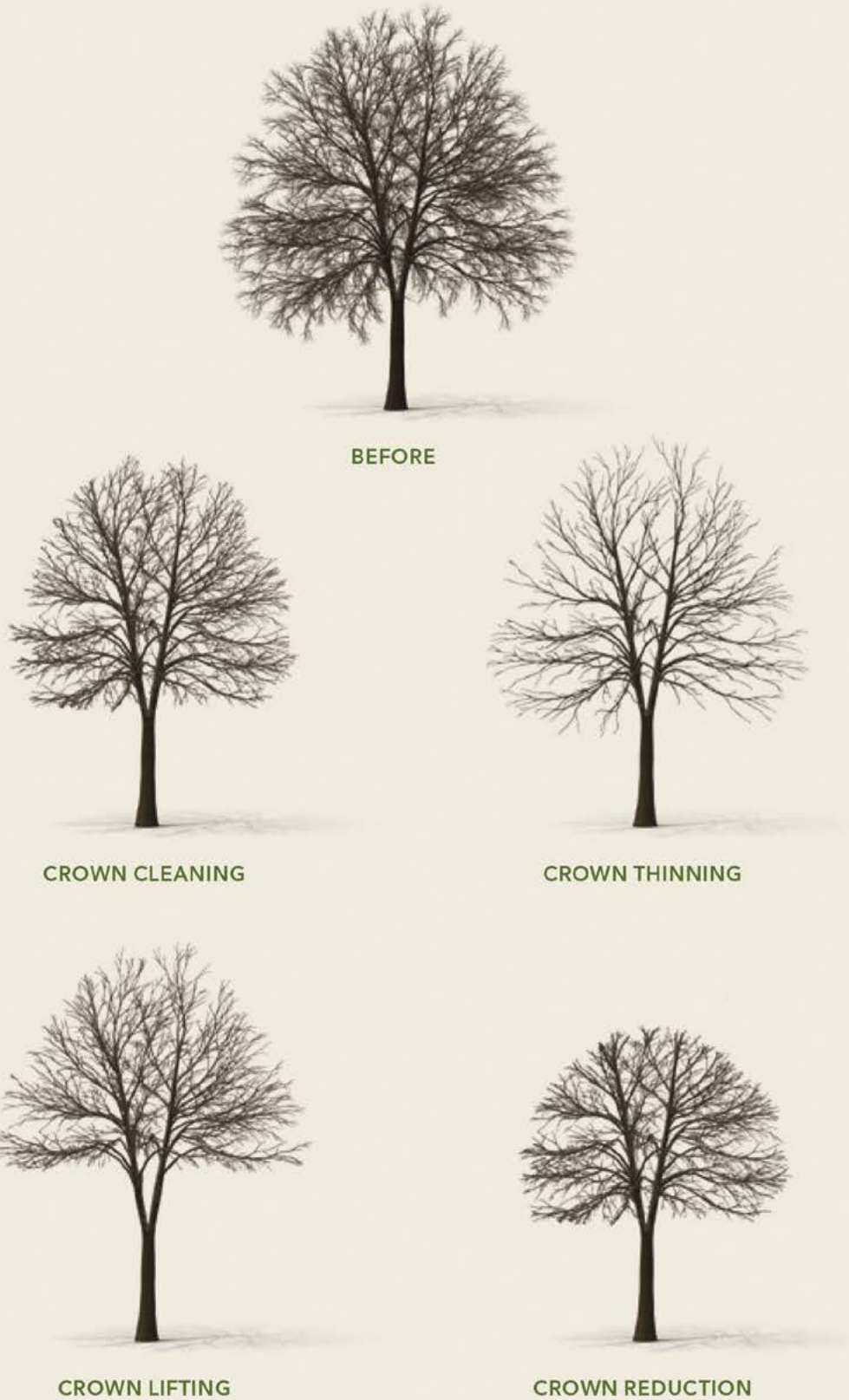


FIGURE 12: PRUNING (GOOD) VERSUS TOPPING (BAD)

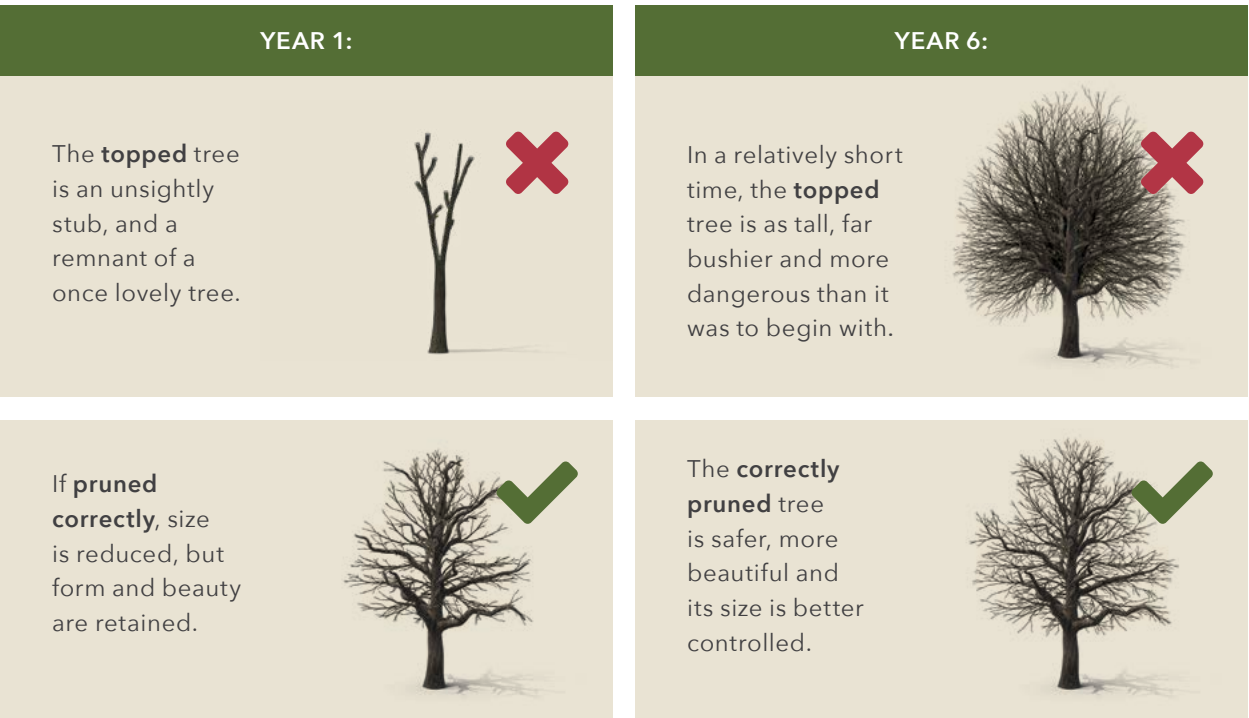
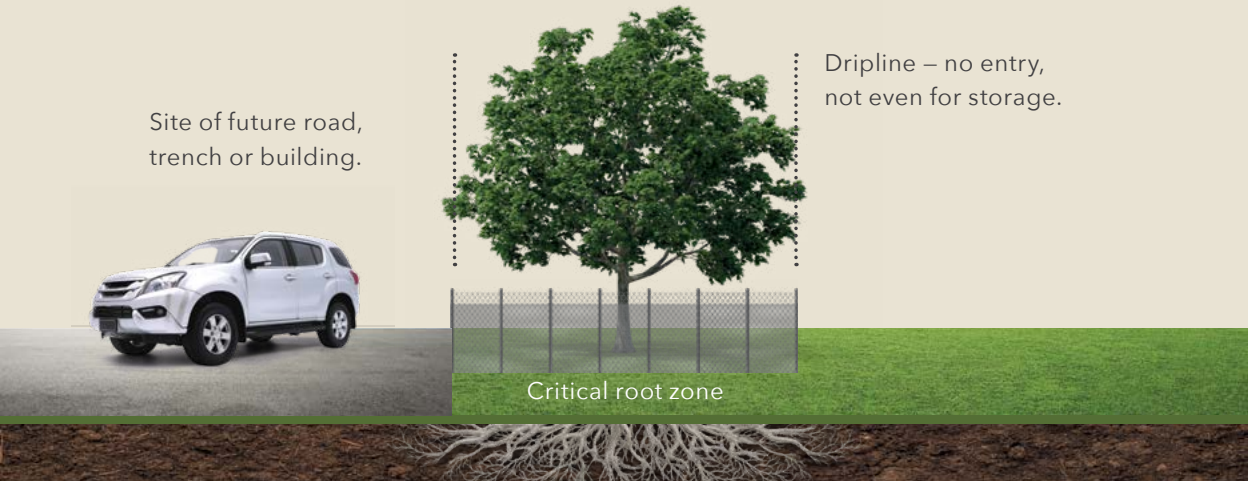


FIGURE 13: PROTECTIVE HOARDING IN LINE WITH THE DRIPLINE



- 4.23 Another threat to our trees is the practice of bark stripping for traditional medicine or muti purposes. The species most affected in Cape Town include camphor (*Cinnamomum camphora*), Norfolk pines (*Araucaria spp.*), Cape beech (*Rapanea spp.*), Cape holly (*Ilex mitis*), assegai (*Curtisia dentata*) and fever trees (*Vachellia xanthophloea*). Bark stripping on flowering gums (*Corymbia ficifolia*) has also been spotted. Trees often targeted for bark stripping can be made 'less desirable' by painting the trunks with PVA paint. If you see any bark stripping in action, please report it to the City (dial **021 480 7700** from a cellphone, or **107** from a landline), giving the location and requesting Law Enforcement to respond urgently. Trees where bark has already been stripped can be reported to Recreation and Parks. (See **annexure B** for contact details.)
- 4.24 Trees in categories other than category 1 of the invasive alien species lists of either NEMBA or CARA do not necessarily need to be removed. While this is context and location-specific, these may often be retained as garden, ornamental or street trees, but may not be propagated and newly planted. Any new saplings that have grown naturally via seed or root suckers should be removed at a young age. In Cape Town's built urban context, these include syringa (*Melia azedarach*), camphor (*Cinnamomum camphora*), jacaranda (*Jacaranda mimosifolia*), Australian silky oak (*Grevillea robusta*) and Brazilian pepper (*Schinus terebinthifolius*). The stone (umbrella) pine (*Pinus pinea*), although invasive in natural fynbos areas, is not a listed species and may be retained in the built urban context, especially from a cultural landscape perspective. The same applies to gum trees (*Eucalyptus spp.*) in urban areas where the tree has a diameter of more than 400 mm and is over 1 000 mm tall. See **guideline 3** for more information on invasive alien species.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies and by-laws relevant to this guideline:

- National Environmental Management: Biodiversity Act (NEMBA) 10 of 2004
- NEMBA invasive and alien species regulations, 2020 (as amended)
- Conservation of Agricultural Resources Act (CARA) 43 of 1983
- CARA regulations, 1984 (as amended)
- National Forests Act 84 of 1998
- National Heritage Resources Act 25 of 1999
- Urban Forest Policy, 2023
- Environmental Strategy, 2017
- Climate Change Strategy, 2021
- Climate Change Action Plan, 2021
- Streets, Public Places and Prevention of Nuisance Noise By-law, 2007
- Municipal Planning By-law, 2015 (as amended)
- Integrated District Spatial Development Frameworks-Environmental Management Frameworks (DSDF-EMFs), 2023

GUIDELINE 5:

ESTABLISH, ENHANCE AND RETAIN GREENERY IN YOUR NEIGHBOURHOOD

Greenery, both trees and other plants, can transform neighbourhoods into desirable areas to live, work and play. It can create a sense of place and enhance the social and public landscape. It can also soften a built environment by screening unattractive areas. Trees in particular can help make buildings appear smaller and less imposing and help buffer noise and wind.

Vegetation releases water through evapotranspiration and also absorbs heat, which leads to cooling. Natural green surfaces are considerably cooler than hard surfaces (e.g. concrete or brick). Vegetation also absorbs carbon, one of the major greenhouse gases responsible for warming the Earth's atmosphere, which causes climate change. Vegetation also reduces dust and other particulate matter by 'capturing' and removing it from the air.

By greening your neighbourhood, especially using locally indigenous plants, you also support and potentially increase biodiversity by propagating species and creating more habitat. Gardens, flowerbeds, planted verges and tree-lined streets all help make a city a more pleasant place to live.

Food gardening, too, contributes to greening, while also providing vegetables, herbs or fruit to eat, and boosting nutrition.

- 5.1 Look for opportunities to increase greenery in your garden, street or neighbourhood, and minimise hard surfacing. Preferably use water-wise plants (see guideline 6), and plant as many trees as possible (see guideline 4).
- 5.2 Encourage 'rewilding' of suitable public open spaces in your community, or consider establishing productive food gardens on suitable underutilised land. Remember to obtain the landowner's permission.
- 5.3 In general, the City does not maintain residential verges. Residents are encouraged to plant and maintain sidewalks, but it must be done in a responsible and safe manner.
- 5.4 Verge planting should consist of soft landscaping, with no fixed or permanent structures erected, and should be well maintained. Plants should also not obscure sightlines in the road.
- 5.5 When planting verges or sidewalks, it is best to leave open a grassed/paved area of >500 mm wide on the roadside for pedestrians to use. Avoid using gravel/stone chip on the verge or sidewalk next to the roadside, as this can be uncomfortable to walk on and may also end up in the road, wash into stormwater drains and be hazardous to cyclists.



Figure 14: A 'tyre forest' with coast silver oak (*Brachylaena discolor*) planted in large tractor tyres to create a future shaded area.



Figure 15: Greenery transforms urban landscapes, fostering community connections, environmental stewardship and ecological resilience.

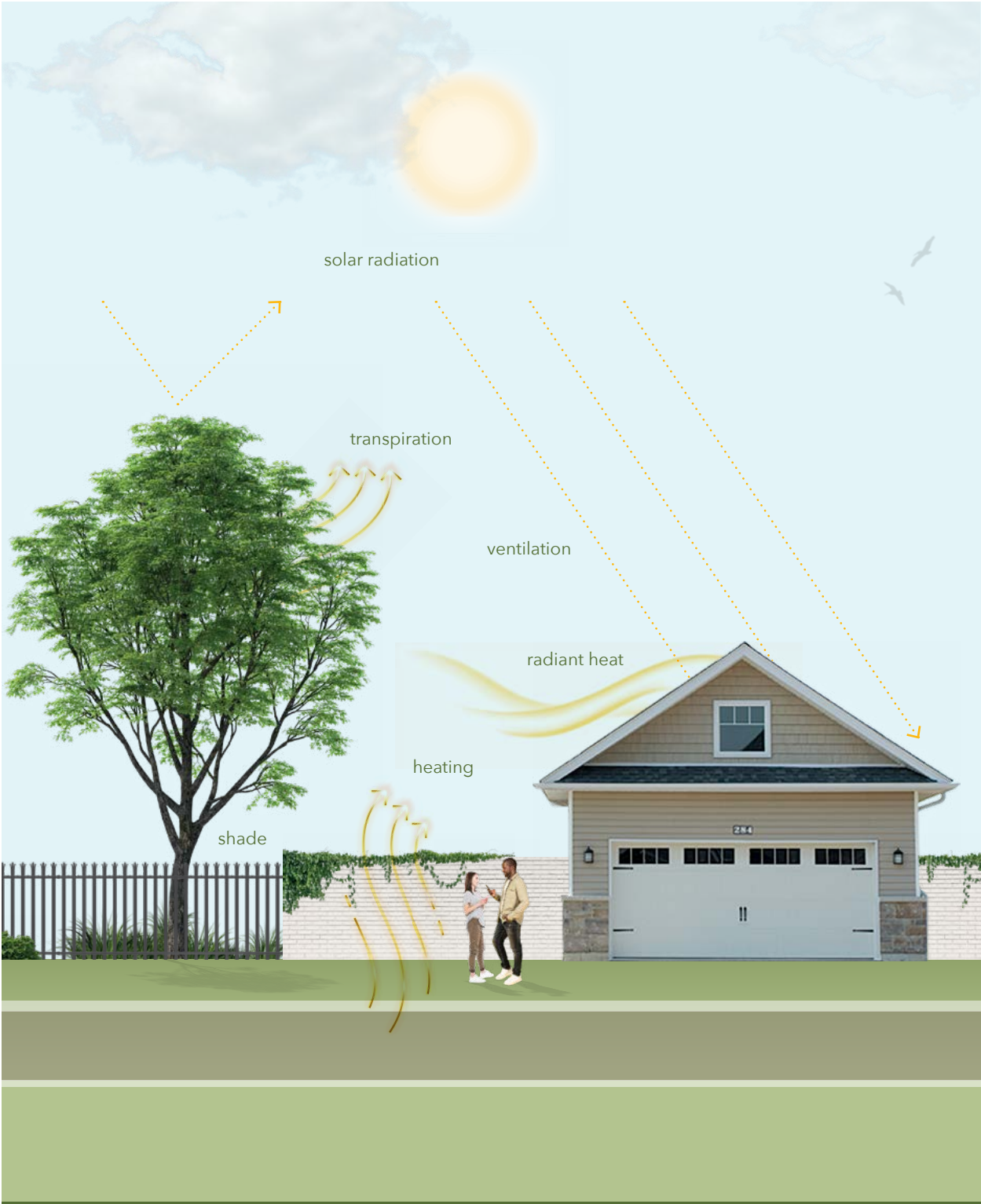


Figure 16: Trees absorb and reflect solar radiation, providing shade to urban surfaces and reducing radiant heat. Through transpiration, they also release moisture into the atmosphere, which cools the environment.

- 5.6 Be mindful that verges and sidewalks potentially have service cables underground. Be careful not to damage these through planting. Also bear in mind that cables may need to be repaired or new ones installed in the future. The City and its appointed contractors will always have the right to dig up the verge if they need to repair or install services. In this case, they are not obligated to replace plants or notify residents beforehand (especially in emergencies), although the City does try to keep residents in the loop. Remember, the planting of trees on verges and sidewalks requires City permission (see guideline 4).
- 5.7 Members of the public may apply to the City's Recreation and Parks Department to obtain trees from the City's nursery and plant these in their neighbourhood. An application form is available on request from Recreation and Parks. See annexure B for contact details, and also consult the [GIP guidelines on trees](#).
- 5.8 Consider starting a food garden and creating garden compost at home from appropriate organic waste (e.g. fruit and vegetable waste, egg shells, leaves). Many local organisations offer a range of workshops, practical advice and resources (see annexure B). The [City's Smart Living Handbook](#) provides useful information on how to start a food garden and on composting. The City also has a [home composting programme](#), and residents may apply for a free home composting container. An easy to follow poster on home composting can be found here https://resource.capetown.gov.za/documentcentre/Documents/Graphics%20and%20educational%20material/Home_compost_made_easy_A4_Poster.pdf.
- 5.9 Residents and communities could start a community garden. These gardens not only produce food, which assists with nutritional diversity, but also offer opportunities for skills transfer and income generation. They can even be educational, as in the case of the [Life-Changing Garden in Bellville](#). In addition, community gardens can be catalysts for social inclusion and community building.
- 5.10 Container gardening works well in temporary spaces and in areas with limited space, as does growing plants that are climbers. Even discarded vehicle tyres can be used as planters. Containers/planters can also be used to bring greenery into locations with hard surfacing, where in-ground planting may not be possible, such as courtyards or paved/asphalted sidewalks.
- 5.11 All containers need to have a drainage layer at the bottom to prevent water from collecting and damaging the plant. Container planters dry out faster than plants in the ground and will most likely need more regular watering. Containers should also be slightly raised to allow water to drain, and include a saucer/tray to catch water and prevent it from overflowing into areas where it may not be desirable.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of City policies, by-laws and plans relevant to this guideline:

- Climate Change Strategy, 2021
- Climate Change Action Plan, 2021
- Food Gardens Policy in Support of Poverty Alleviation and Reduction, 2013
- Urban Agriculture Policy, 2006
- Urban Forest Policy, 2023
- Streets, Public Places and Prevention of Nuisance Noise By-law, 2007
- Environmental Strategy, 2017
- Parks Development Policy, 2015
- Urban Design Policy, 2024
- Public Parks By-law, 2010



Community gardens encourage knowledge sharing, a connection to nature, and a strong sense of community.

GUIDELINE 6:

BE WATER-WISE
IN YOUR GARDEN

Cape Town is in a water-scarce region, and our rainfall patterns remain uncertain. As the three-year ‘Day Zero’ drought (2015-2018) so clearly highlighted, Cape Town can face periods of critical water scarcity. Our climate projections also show that we can expect the climate to become warmer, windier and drier. This is already starting to happen, and will affect our water resources. Our water resources are precious, and we need to ensure that we use them optimally.

Gardens can be water guzzlers, so it is important that we make our gardens more water-wise in terms of how they are designed, planted and maintained. This can be done by using plants that are indigenous and suited to our local conditions, or plants that require less water. Also reduce water-thirsty lawn areas, or plant more drought-tolerant lawn species. Group plants with similar water needs together, and use alternative (non-potable) water sources and efficient ways of watering or irrigation.

Water-wise plants, whether indigenous or originally from places where the climate is similar to ours (e.g. the Mediterranean), have developed a number of mechanisms to grow in arid conditions. They survive by storing water, reducing water loss through the leaves, or being underground during the dry season.

- 6.1 Use water-wise, preferably locally indigenous, plants in your garden. These are naturally ‘drought-resistant’ and require little watering once established. Remember, despite being water-wise, all plants need regular watering until they are established.



Figure 17: Rainwater harvesting tanks efficiently collect rainwater for garden irrigation.

- 6.2 It is best to plant in autumn, after the first good rains. This gives the plants the opportunity to develop a strong root system during the cooler winter months, enabling the plant to better tolerate the hotter, drier summer conditions. During the first summer, however, you may need to water every seven to 14 days, depending on the wind and heat.
- 6.3 Generally, water-wise plants can be recognised by their leaves. These are either small, hairy or waxy to reduce evaporative water loss, grey to reflect light and heat, or succulent or fleshy to store water.
- 6.4 Water-wise plants may also exhibit summer dormancy (e.g. the March lily (*Amaryllis belladonna*)), have an underground storage organ (e.g. tuberous rooted plants such as agapanthus) or have strong internal structures to prevent wilting (e.g. restios).
- 6.5 Examples of water-wise plants include shrubs such as confetti bush (*Coleonema spp.*) and spurflowers (*Plectranthus spp.*), perennials such as agapanthus (*Agapanthus spp.*) and wild irises (*Dietes spp.*), and groundcovers such as African daisies (*Arctotis spp.* and *Osteospermum spp.*) and most succulents. **Annexure F** contains a list of water-wise plants that are suitable for most gardens in the winter rainfall area, including Cape Town. It also provides information on plant types (e.g. bulb, shrub, climber), growth form, preferred sunlight conditions and flower colour.
- 6.6 Soils in Cape Town gardens are mostly suitable for fynbos or strandveld plants, provided the area is sunny throughout the year. Fynbos plants (e.g. proteas, restios, buchus and ericas) do well in acid, sandy soils. Strandveld plants (e.g. vygies, melkbos, daisies, broad-leaf trees and shrubs) grow well in most sandy soils. Soils require little preparation, as the species prefer nutrient-poor conditions. Fynbos, in particular, dies when fertilisers are added.



Figure 18: Examples of water-wise plants (from left to right): confetti bush (*Coleonema album*), March lily (*Amaryllis belladonna*) and blue lily (*Agapanthus praecox*).

- 6.7 Different places in Cape Town present various growing conditions, including varying rainfall, wind exposure and soil type, which can affect the choice of plants to use. For information on planting by veld type, see <https://www.fynboslife.com/life-garden/>. Also consult your local nursery and websites such as www.plantZAfrica.com or <https://www.theplantlibrary.co.za/western-capeplants>.
- 6.8 The spekboom (*Portulacaria afra*) is an easy-to-propagate water-wise plant with numerous benefits, including having edible leaves and being good at absorbing (or sequestering) carbon from the atmosphere. Note, however, that since it does not naturally occur in Cape Town, it should not be planted in any sites of biodiversity or conservation significance. [Specific booklets on the spekboom](#) are available on the City's website, including [material aimed specifically at children](#).
- 6.9 It is useful to group plants with similar water needs together. This enables targeted watering to suit the needs of those groups, or 'hydrozone landscaping'. 'Xeriscaping', in turn, is landscaping using plants with low water requirements and utilising water conservation techniques such as mulching and efficient watering.
- 6.10 Incorporate compost and mulch twice a year to keep the plants healthy and help retain soil moisture. Straw, bark chips, gravel, pebbles, exposed aggregate, nut shells and leaves may be used for mulching. In areas where high winds may blow away bark or other light materials, stones and shells are ideal to use. You can also plant indigenous groundcovers, and use these as living mulch. Your local nursery will be able to advise you on the best options.
- 6.11 When you need to water, do so in the most efficient way to minimise water loss through evaporation and runoff. When using municipal water, the Water By-law 2018 amendment requires watering to take place before 09:00 or after 18:00. Even when using alternative water sources, such as borehole or harvested rainwater, it is best to water early or later in the day to minimise water loss. Water restrictions may be instituted during low rainfall or drought conditions, and homeowners are responsible for ensuring that they comply.



Figure 19: Drip irrigation systems support effective water management by delivering water directly to plants with minimal waste, promoting sustainable gardening practices.

6.12 Preferably use non-potable water (e.g. harvested rainwater, treated effluent or greywater) to water your garden. Do consider installing a tank to harvest rainwater for use in the garden.

When using your own greywater, be careful, as high levels of soap and other surfactants can harm or kill your plants. It is best to switch to biodegradable soaps and consider filtering your greywater, or watering with clean water on a rotational basis to prevent any build-up. Information on the [safe use of greywater](#) is available on the City's website.

When using a borehole or wellpoint as an alternative non-potable water source, keep in mind that groundwater is a public good, and its use is regulated and [required to be recorded and reported](#).

6.13 If you use an irrigation system to water your garden, ensure that it is properly designed and can be overridden if it rains.

6.14 Drip irrigation systems are generally the most efficient way to water, but must be maintained, as the small outlets can become clogged, which will affect the amount of water reaching your plants. Manufacture your own 'drip irrigation system': Make four tiny holes in the lid of a plastic bottle, using a hot needle. Fill the bottle with water and loosely replace the cap. Lay the bottle on the ground at the base of a plant and let the water drip out slowly. This is a very simple way to water the roots of each plant.

6.15 Lawns require a lot of water and maintenance. Therefore, consider swapping some of your lawn area for water-wise soft landscaping (e.g. groundcovers, shrubs and trees), hard landscaping (e.g. gravel, woodchips) or other hard but permeable surfaces (e.g. permeable pavers).

6.16 When replacing or reducing lawn with hard surfaces, steer clear of impermeable material such as plastic underneath the surface, as this prevents rainfall from soaking into the soil and replenishing groundwater. To reduce weed growth, use permeable geotextiles or landscaping fabric instead of plastic.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws and plans relevant to this guideline:

- National Water Act 36 of 1998
 - Water Strategy, 2019
 - Water By-law, 2010 (as amended)
- Climate Change Strategy, 2021
 - Climate Change Action Plan, 2021
 - Environmental Strategy, 2017



Water-wise garden.

GUIDELINE 7:

PROMOTE AND
CELEBRATE WATER
AS PART OF THE
URBAN GREEN FABRIC

Water forms an important part of our heritage. In essence, it is the reason for Cape Town’s establishment.

Yet the value of water extends far beyond its important life-sustaining functions. Water also has spiritual and aesthetic value, which can support mental well-being and happiness. Water brings unique qualities and an identity to a space, creating a sense of place. Through sight and sound, it can provide a sense of tranquillity and calm, and a place to reflect and destress. Its cooling properties also help reduce urban heat and make the urban environment liveable.

By being water-conscious, seeking ways to use water positively in the urban realm, and integrating water into developments, many of its benefits can be unlocked.

The City’s [GIP guidelines on urban watercourses](#) provide information on the value and enhancement of watercourses as part of town planning and development, as well as the legislative and regulatory framework governing watercourses.



Figure 20: Merriman Square is an example of a previously underutilised space on the Foreshore that was transformed into an urban sanctuary through water-sensitive design.

- 7.1 Integrate functional water features and green elements into the design of buildings and other developments.
- 7.2 Integrated systems of water purification such as constructed wetlands, as well as other green elements such as trees and vegetation, are not only a way to green the city, but can also provide space for recreation and social connection.
- 7.3 Try to use water-sensitive urban design (WSUD) and SUDS to retain and optimise water and its multiple functions on-site. For example, stormwater could be captured and used as part of a water feature such as a constructed wetland or pond, rather than being diverted into a stormwater pipe and conveyed away from the site. You could also create a 'green street'.
- 7.4 Over the years, many of the streams that used to flow from Table Mountain to Table Bay have been diverted underground. Where the opportunity exists to do so, consider daylighting sections of these streams and/or utilising water from them as part of landscaping and functional features. Just remember to comply with all legislative requirements in relation to watercourses.
- 7.5 Appropriately scaled water features, such as drinking fountains, basins or furrows, can add interest to urban areas, and in some instances, they can support the green network.
- 7.6 Our many urban watercourses, including natural and canalised rivers as well as wetlands, form the backbone of the city's GINet and present many opportunities for improvement, both bio-physically and for social and amenity value.
- 7.7 The principles that underpin the City's [Liveable Urban Waterways \(LUW\)](#) programme should be embraced and incorporated in project plans and activities wherever possible. LUW views waterways as connectors and catalysts, and encourages design with nature, design for many uses, the incorporation of resilience, design for attractive and usable public places, collaboration and partnering, as well as post-project care and maintenance.



The Princess Vlei Canoe Club gives learners the opportunity to have fun while experiencing the beauty and tranquillity of a natural area. *Photo by Princess Vlei Forum*



Example of SUDS at the Paddocks Milnerton retention ponds.

7.8 Liveable urban waterways typically display the following features:

- Water of a quality that is acceptable for the context and the purpose
- Make space for water: Accommodate flooding as a natural phenomenon, and convey, store and treat floodwater in a way that does not pose an unacceptable risk to surrounding communities
- Have a functioning ecology: Provide a diverse habitat structure and connectivity to support a functioning ecology and a healthy biodiversity of indigenous aquatic life
- Connect the waterway to the water table and the floodplain: Ensure a hydraulic connection between the waterway and its flood plain as well as aquifers, allowing for more natural water flow and recharge of groundwater and wetlands
- Connect people, and are used and enjoyed by communities: Waterways can link mountains to the sea, and upstream communities to downstream communities. They are multifunctional spaces where people come to relax, enjoy themselves, learn and exercise.
- Provide a range of ecosystem services as well as economic and social benefits: They use natural processes to treat water, store water, reduce flooding, improve biodiversity, trap sediments, recycle nutrients, reduce heat and assimilate carbon. They may provide jobs, food and materials, or the water may be abstracted for use.

7.9 A compendium of [LUW case studies](#) profiles watercourses in Cape Town that have been enhanced and are now providing social, ecological and economic benefits.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws and plans relevant to this guideline:

- | | |
|------------------------------------|---|
| • National Water Act 36 of 1998 | • Floodplain and River Corridor Policy, 2009 |
| • Water Strategy, 2019 | • Management of Urban Stormwater Impacts Policy, 2009 |
| • Water By-law, 2010 (as amended) | • Stormwater Management By-law, 2005 |
| • Climate Change Strategy, 2021 | • Urban Design Policy, 2024 |
| • Climate Change Action Plan, 2021 | • Environmental Strategy, 2017 |
| • Resilience Strategy, 2019 | |

GUIDELINE 8:

CONSIDER ESTABLISHING A GREEN ROOF OR ROOF GARDEN

A green roof (or ‘living roof’) is a flat or slightly inclined building roof that is partially or completely covered with vegetation in a growing medium, planted over a waterproof membrane. Green roofs should be distinguished from roof gardens, which are created by planting vegetation in containers on top of a roof. While roof gardens have most of the same benefits as green roofs, they are not as effective at capturing water or providing insulation.

Green roofs form part of the suite of approaches that make up SUDS. However, they offer many more benefits in the urban environment than just those relating to stormwater management. They provide for green areas on a site, which serve as green stepping stones that can link green spaces in a city.

Green roofs enable water infiltration and reduce immediate water runoff by retaining rainwater on-site, with subsequent evapotranspiration. They help reduce pollution by removing atmospheric urban pollutants, improve biodiversity by offering new habitats for fauna and flora, and increase aesthetic and amenity value in a city. They improve the microclimate by generating oxygen and reducing dust and smog levels, which can include high concentrations of carbon dioxide and nitrous oxides. Green roofs can even offer an opportunity to grow produce for local sale or consumption, thus reducing food transport costs and ‘food miles’ carbon emissions.

In addition, they have been demonstrated to reduce sound reflection (externally) and improve sound insulation (internally). Importantly, they also help manage the urban heat island effect. The vegetation helps reduce the amount of heat absorbed and later emitted by the building, and also cools the air through evapotranspiration. Green roofs can improve a building’s thermal insulation, which reduces heating and cooling costs, and can increase the roof’s lifespan by protecting it from UV exposure, heat, cold and hail.

Green roofs also contribute significantly towards a building’s SA Green Star rating, affording credits in the categories of energy, water, land use and ecology, and emissions. In addition, solar panels may be incorporated into a green roof installation. Studies have shown that a combined photovoltaic (PV) solar and integrated green roof system (a ‘bio-solar roof’) can outperform a conventional PV solar system.

The environmental sustainability and climate resilience benefits of green roofs in an urban context are clear, as is their ability to improve the urban living environment.



Figure 21: Green roofs are an effective way to integrate green infrastructure into urban areas with limited space.



The green roof at Helderberg Environmental Centre includes low-growing indigenous planting with drip irrigation. The rooftop also houses solar panels that supply electricity to the centre.

- 8.1 Appropriate professionals (e.g. structural engineer, architect, landscape architect, irrigation specialist) need to be consulted regarding the planning and design of a green roof or roof garden. The intended use of the area would need to be taken into account in the design (e.g. for recreation, solar panel installation, etc.), and a structural engineer should sign off on the structural integrity of the roof to support the envisaged use.
- 8.2 Green roofs can be built on flat roofs as well as those with a gentle (0-20°) incline. Flat roofs work better, as they often allow for a deeper planting medium, and therefore, larger plants and a thicker layer of vegetation. They also offer better accessibility and enable greater use, for example, for outdoor recreation.
- 8.3 Retrofitting existing roofs into green roofs or roof gardens is a feasible option in many instances, particularly for concrete roof slabs, provided the roof has enough strength to hold the additional weight.
- 8.4 Green roofs can be 'extensive', with a shallow soil medium (generally less than 20 cm) over a larger area, suitable for smaller, self-generative plants such as succulents, grasses or small shrubs. Alternatively, they can be 'intensive', with a deeper soil medium (up to 1 m or more) over smaller areas, suitable for planting trees or larger shrubs. Extensive green roofs generally require less additional structural support than intensive ones, as they are lighter. They also tend to require less maintenance once established.
- 8.5 Green roofs are particularly effective in dense urban areas (e.g. central business districts) where land values are high and/or land for greening initiatives is limited. They especially work well when implemented on roofs with large surface areas, such as commercial and industrial buildings as well as apartment blocks.
- 8.6 Maximise the opportunity for your green roof to serve multiple functions, such as providing a biodiverse habitat and/or incorporating food gardening and communal or private outdoor recreation opportunities.

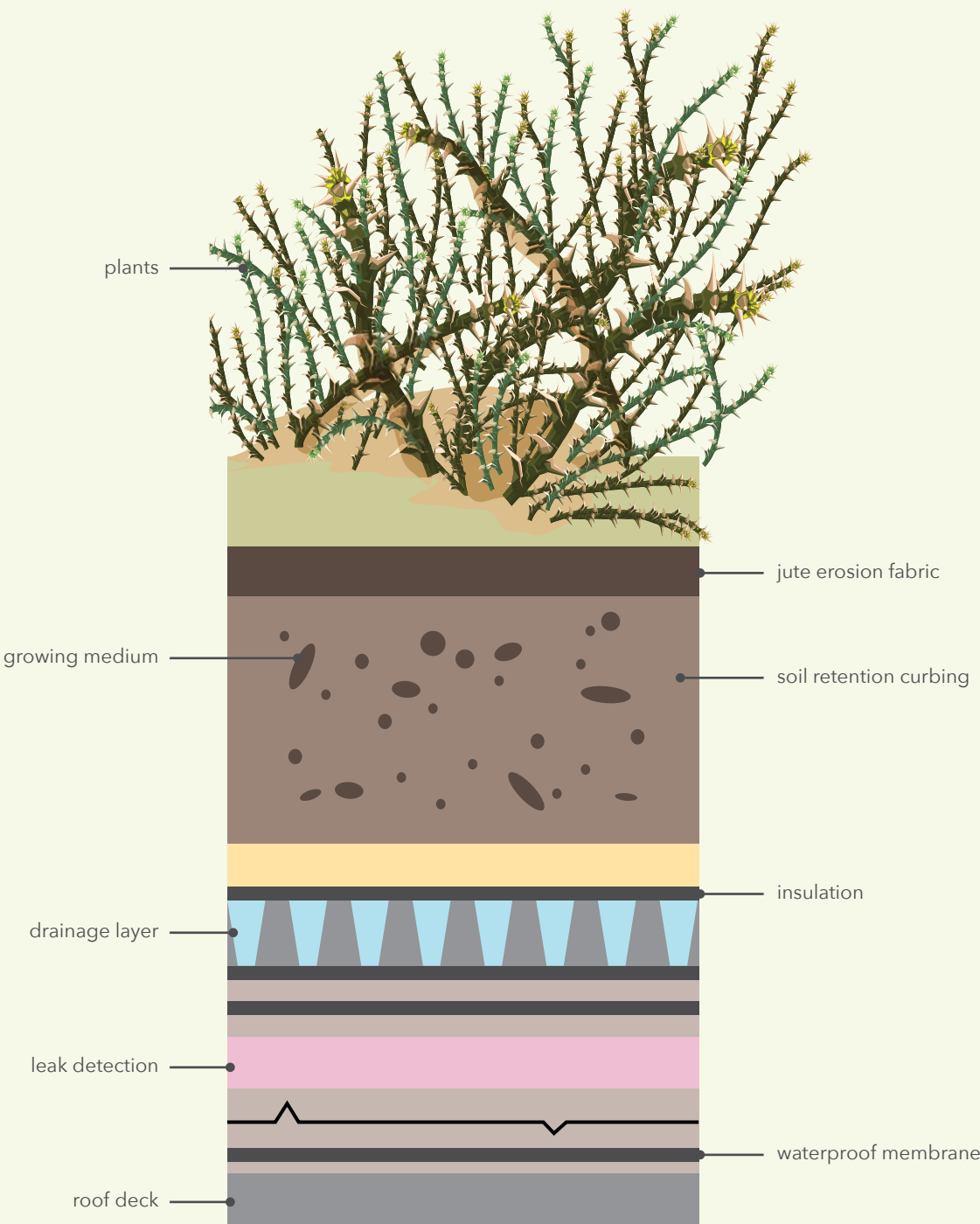


Figure 22: The green roof at the Cape Town Civic Centre offers shade, seating, greenery, and paving, enhancing both its utility and environmental benefits.

- 8.7 Where possible, try to include green technologies, such as renewable energy (e.g. solar panels), in your green roof for improved building sustainability.
- 8.8 The structural loading capacity of the roof needs to account for the additional weight of the green roof component materials and the expected water detention volumes. Green roofs comprise a number of layers of various materials for water to drain away or off the roof adequately, as well as for the plants to grow well in a soil medium layer. These layers can include waterproofing membrane, root barrier, drainage material, filter material and soil medium. Significant consideration is given to making these layers as light as possible so that the overall weight on the roof is minimised. Water, however, is heavy, weighing approximately 1 000 kg per m³, so the added weight of wet soil must be considered in the structural design or integrity of the roof. This must be evaluated by an appropriately qualified professional.
- 8.9 Irrigation or watering may be required to keep the vegetation alive during hot and dry periods, when rainfall may not be adequate to sustain it. How you water or irrigate your green roof or roof garden is an important consideration, as are the plants you use.
- 8.10 Irrigation systems may be designed to make use of greywater from the building, harvested rainwater stored in tanks, or basement water. The use of alternative non-potable water sources rather than precious drinking water is preferred when watering or irrigation is needed. The alternative water source one chooses would depend on the vegetation, as greywater may be harmful to some plants (e.g. some fynbos species) and is also possibly not desirable when growing edible plants. In these instances, harvested rainwater or basement water is a better option, supplemented by municipal water supply, if required.
- 8.11 The practicalities of watering or irrigating the garden (e.g. storage, pumping, irrigation, or tap-and-hose system) need to be carefully considered, and the amount of water used should be monitored to avoid excess runoff or water weight in the soil.
- 8.12 Drainage of water, both from irrigation and precipitation, is also a vital consideration. Water needs to drain away from the roof structure as quickly as possible, but should also wet the plant roots adequately for a long period. Green roofs typically incorporate a drainage layer to help trap and move the water quickly to a drainage or downpipe or water tank. In the past, river sand or fine gravel was used to drain the water away, but these materials are generally too heavy for most roofs. Today, specialised matrix-like drainage products are used. These are thinner and lighter and can increase drainage rates, but usually cost more. In addition, the drainage design should incorporate several collection points serving a given area in case one drain becomes clogged, as well as above-ground overflow drains.
- 8.13 The soil medium typically used for green roofs or roof gardens is quite different from everyday garden soil and compost, since the soil medium needs to be as light and free-draining as possible. These soil mediums often include perlite (a natural material that looks like small polystyrene balls) or substances such as vermiculite, which help reduce the weight of the soil and let water through quickly. Horticulturists and engineers have teamed up to create the perfect mixture for these lightweight soils to allow for optimum plant growth, yet maximum drainage. Replenishment of soil minerals and nutrients from decaying organic matter is another important consideration over the life of the garden, and the fertilising needs of the plants should be taken into account.

FIGURE 23:

Green roof systems share common architectural elements, with each layer playing a crucial role, regardless of soil depth or plant types used.



- 8.14 Choosing which plants to grow is an important consideration in the design of a green roof. Generally, shallow-rooted plants, groundcovers and grasses are used. Trees may be incorporated and are usually cleverly hidden in below-ground containers with increased soil depth, or in large planters above the soil level and placed at the junction of supporting beams in the roof for added weight-bearing support.
- 8.15 Consider whether the plant species you choose can adapt and thrive in a roof setting in the long term. Harsh sunlight, lack of shade and high winds should also be taken into account when choosing the correct plants to use on a roof. Wherever possible, use indigenous plants, as these are often adapted to similar challenging conditions. Specialist advice from a horticulturist is usually recommended when designing your plant palette.
- 8.16 If a full green roof design is too complex or expensive to install, consider creating a roof garden. There are a number of ways you could do this, from simply placing a few containers to more elaborate methods. An example of a roof retrofit to create a roof garden is to use plants planted in plastic containers or lightweight plastic crates, lined with geotextile to retain soil and moisture. Lightweight wooden decking could also be placed over the concrete slab, which would lift the plants off the concrete and enable existing drainage to function. With additional elements such as a bench or table and chairs (sturdy enough not to be blown off the roof), the area could become a pleasant outdoor space to enjoy.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws and plans relevant to this guideline:

- Climate Change Strategy, 2021
- Climate Change Action Plan, 2021
- Resilience Strategy, 2019
- Environmental Strategy, 2017
- Municipal Planning By-law, 2015 (as amended)
- National Building Regulations and Building Standards Act 103 of 1977 (as amended)



Helderberg Environmental Centre

GUIDELINE 9:

CONSIDER
ESTABLISHING A
GREEN WALL OR
VERTICAL GARDEN

A green wall, or 'living wall', is a vertical space covered by vegetation. The plants are rooted into a medium in a modular structure attached to the wall. Green walls may be established indoors or outdoors on a new or existing wall or other suitable structure.

Green walls provide various environmental and health benefits. They improve air quality by removing air pollutants such as nitrous oxides and particulate matter, and increase oxygen levels. They reduce urban temperatures by absorbing the sun's rays and evapotranspiration. In addition, they provide thermal benefits to buildings by adding a layer of insulation, attenuate rainwater through interception and retention, and reduce noise by absorbing sound. Green walls can also provide habitat and nesting opportunities, increase biodiversity, attract local wildlife such as birds, bees, butterflies and other insects, and help enable ecological connectivity. Moreover, they offer an increased sense of well-being, improve building aesthetics, and have been demonstrated to increase creativity and productivity. They can even be used as spaces to grow food, especially in the domestic context.

Green walls and vertical gardening are a way to green areas where opportunities for traditional greening or gardening are limited, and can be created at various scales and in a variety of locations.

- 9.1 A green wall is normally created using specially designed soil-based and/or hydroponic modular systems into which plants are planted. Various systems are available commercially that can be customised for the desired application, covering either the whole or part of a wall.
- 9.2 The type and nature of the system used, including soil depth, location and aspect, will determine the type of plants to be incorporated into the green wall.
- 9.3 Also keep in mind the weight of the system and the strength of the wall (or other structure) on which the green wall is to be installed or created. You might also need a waterproof membrane or simply a gap to protect the wall behind from moisture, which could either introduce damp or cause rot. In addition, due to drainage, water may drip, which could stain or dirty whatever is below.



Figure 24: Example of how vertical gardening can transform barren walls into vibrant, living structures.

- 9.4 Creepers and other climbing plants can be introduced and trained to cover trellises attached to walls, thereby creating a green facade (i.e. planting in the ground, but with vegetation extending vertically to cover the wall), which provides similar benefits to a green wall. When planting close to riparian areas, be careful with species selection to avoid 'invasion' of creepers.
- 9.5 Commercial buildings and shopping centres are ideal locations to incorporate green walls and green facades, and should be considered during building design.
- 9.6 Vertical gardens can be aesthetically pleasing 'living art', adding interest and focus to either interior or exterior walls.
- 9.7 Simple vertical gardens can also be created at home using a variety of materials into which plants are planted. Some examples include stacking wooden or plastic crates, hanging shoe organisers, attaching lengths of rain gutter at intervals on a wall, or even two-litre plastic cooldrink bottles with a horizontal cutaway and filled with soil, linked together with washing line and fixed to a wall. Many examples make use of recycled materials. The internet offers ample inspiration and useful DIY advice. Simply search 'vertical gardening ideas'.



Figure 25: Vertical green walls were incorporated into the design of the Dunoon library to grow plants or herbs and vegetables.

- 9.8 Vertical gardens may also be incorporated into informal settlement areas where space limitations restrict opportunities for traditional gardening. Here particularly, they could contribute to food and nutritional security through the planting of edible plants.
- 9.9 An example of a prototype 'green shack' was [displayed at Design Indaba 2013](#). The prototype included vertical 'food gardens' on the sun-facing walls. Drip irrigation was introduced using a low-tech, slow-release, gravity-fed system via a pipe made of recycled tyres. Water was also captured off the roof and stored in a tank.
- 9.10 A green wall or vertical garden can be watered either via an irrigation system or by hand. Water from the higher levels normally filters down to lower plants. This can be incorporated into the design of the garden so that you only have to water once, from the top.
- 9.11 Selecting the appropriate green wall system and plant materials for a particular site is critical for the long-term sustainability of the green wall.

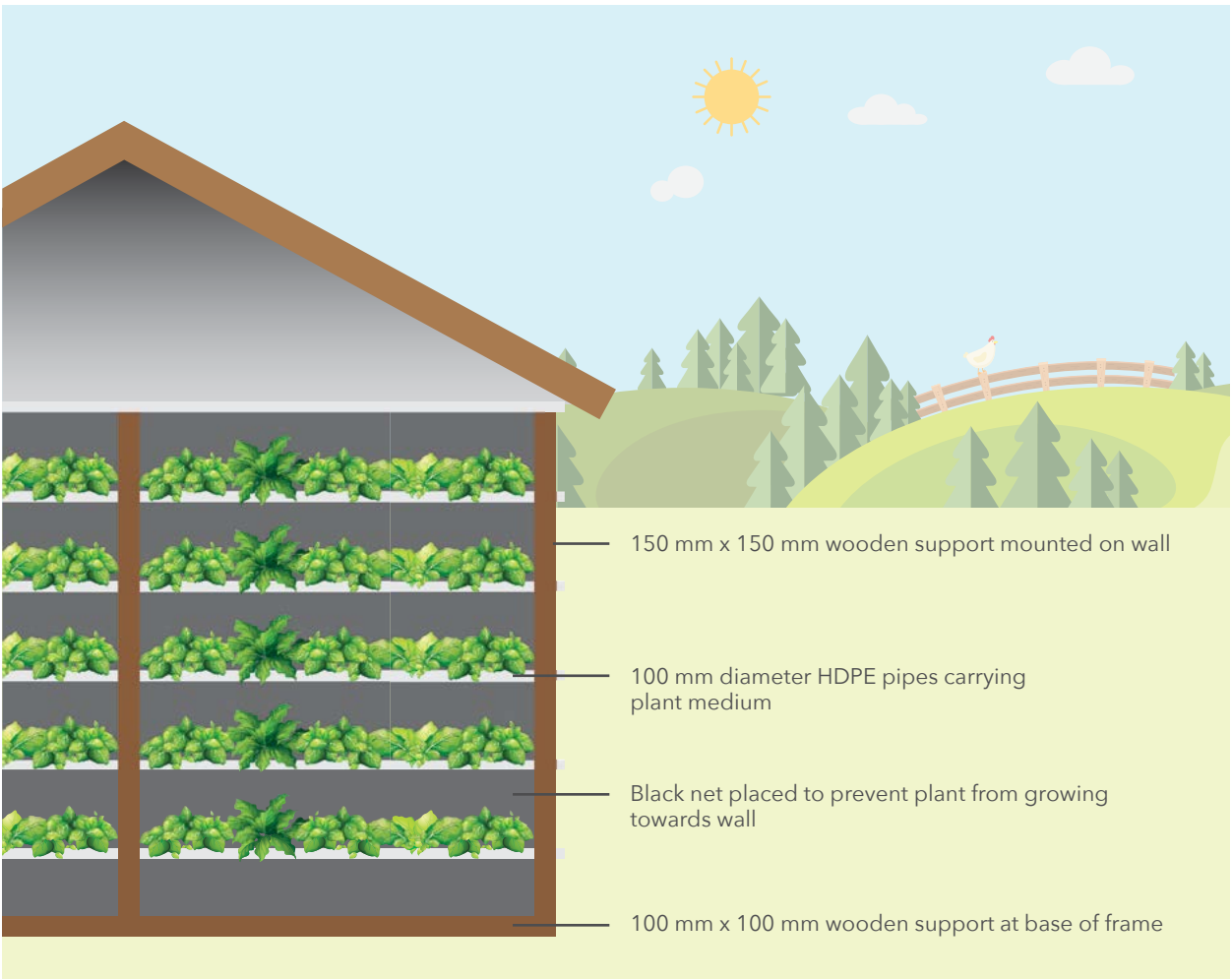


Figure 26: Example of an affordable vertical farm designed for low-income communities.

- 9.12 Succulents are often the plants of choice for green walls and/or vertical gardens.
- 9.13 For a list of indigenous plants that may be suitable for use in a green wall, see <https://www.theplantlibrary.co.za/greenwalls>. Also take into account the position and aspect of where they will be planted.
- 9.14 Many herbs such as basil, thyme, coriander and chives, as well as fruit and vegetables such as strawberries, tomatoes, spinach, celery and lettuce, may also be grown in a vertical vegetable garden.
- 9.15 It is best to consult a horticulturalist or your local nursery for advice on suitable plants for a green wall and/or vertical garden.

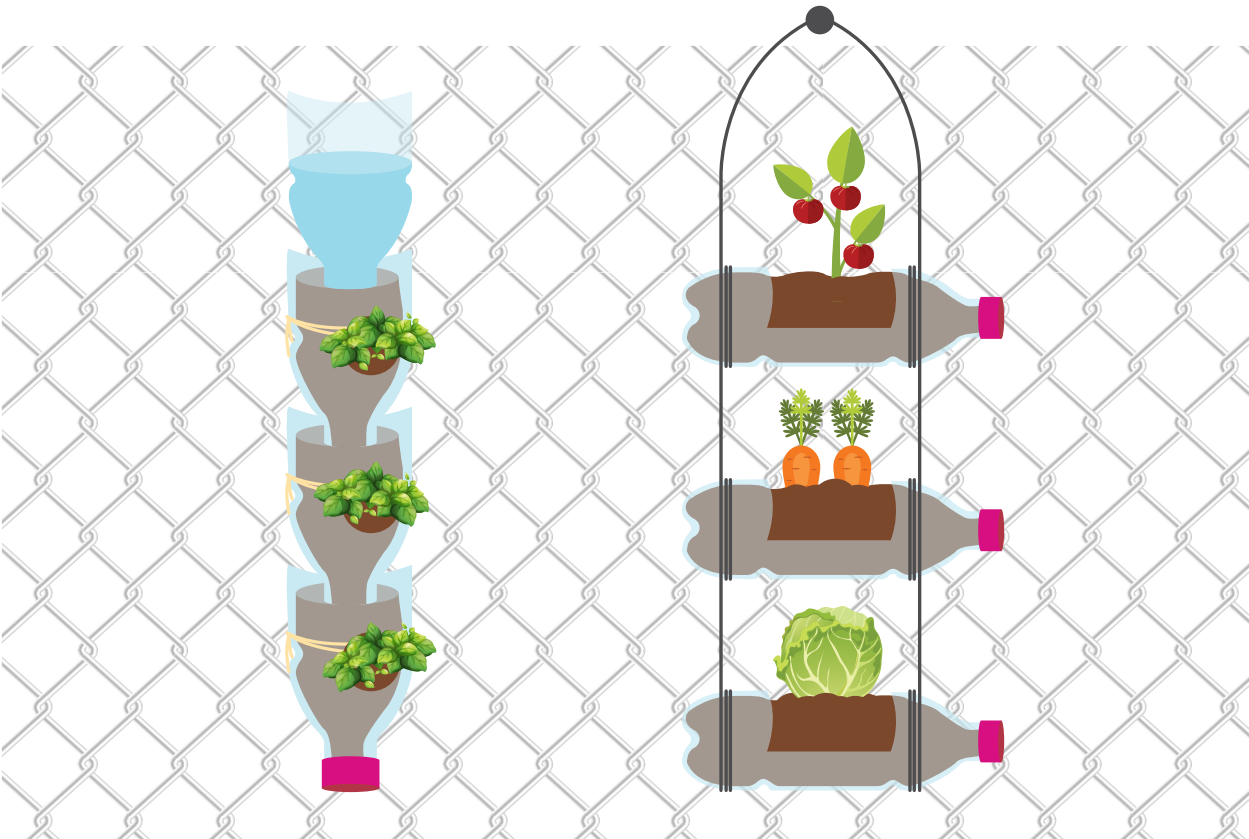


Figure 27: With simple supplies you can upcycle ordinary 2-litre plastic bottles into unique vertical planters.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies and by-laws relevant to this guideline:

- Climate Change Strategy, 2021
- Climate Change Action Plan, 2021
- Resilience Strategy, 2019
- Environmental Strategy, 2017
- Municipal Planning By-law, 2015 (as amended)
- National Building Regulations and Building Standards Act 103 of 1977 (as amended)



Creeper adorned buildings at the University of Cape Town.

GUIDELINE 10:

REDUCE FIRE RISK BY 'FIRESCAPING' IN NATURAL INTERFACE AREAS

Cape Town is fortunate to have many natural open spaces within and adjacent to its residential areas. Yet this holds an associated fire risk, especially given our location in the Cape Floristic Region, where fynbos is both fire-dependent and fire-prone. As a result, wildfires are a relatively frequent and essential natural occurrence in the city.

The wildfire risk is further heightened by the presence of invasive alien plants, which add to the fire load, and our climate of hot, dry and windy summers. In addition, climate projections indicate an increased risk of wildfires into the future due to an increasingly hot, dry and windy climate.

Fire risk should be accounted for when designing and building properties at the urban-natural interface (e.g. adjacent or close to natural open spaces, for example Table Mountain national park, nature reserves, and on the outskirts of the city), as well as in relation to garden landscaping and home and garden maintenance. Fire breaks may also need to be considered, or implemented, where required by law.

The area closest to the home, called the 'survival space', is particularly important to consider when looking to minimise risk from fire. A zoning system is generally promoted to 'firescape' your garden within (at least) a 10 m zone. This zone may be wider, depending on location and context (e.g. slope of the property, and density of surrounding vegetation).

The zones in the survival space are the buffer zone, the medium-resistance zone and the low-resistance zone. The buffer is the area furthest away from the home within the 10 m survival space. The medium-resistance zone is the area between the peripheral buffer zone and the inner band (the low-resistance zone), while the low-resistance zone (fire-wise/clear zone) is the area closest to the home and extends about 3 m. The types of plants used for landscaping in these three zones can help reduce fire risk.

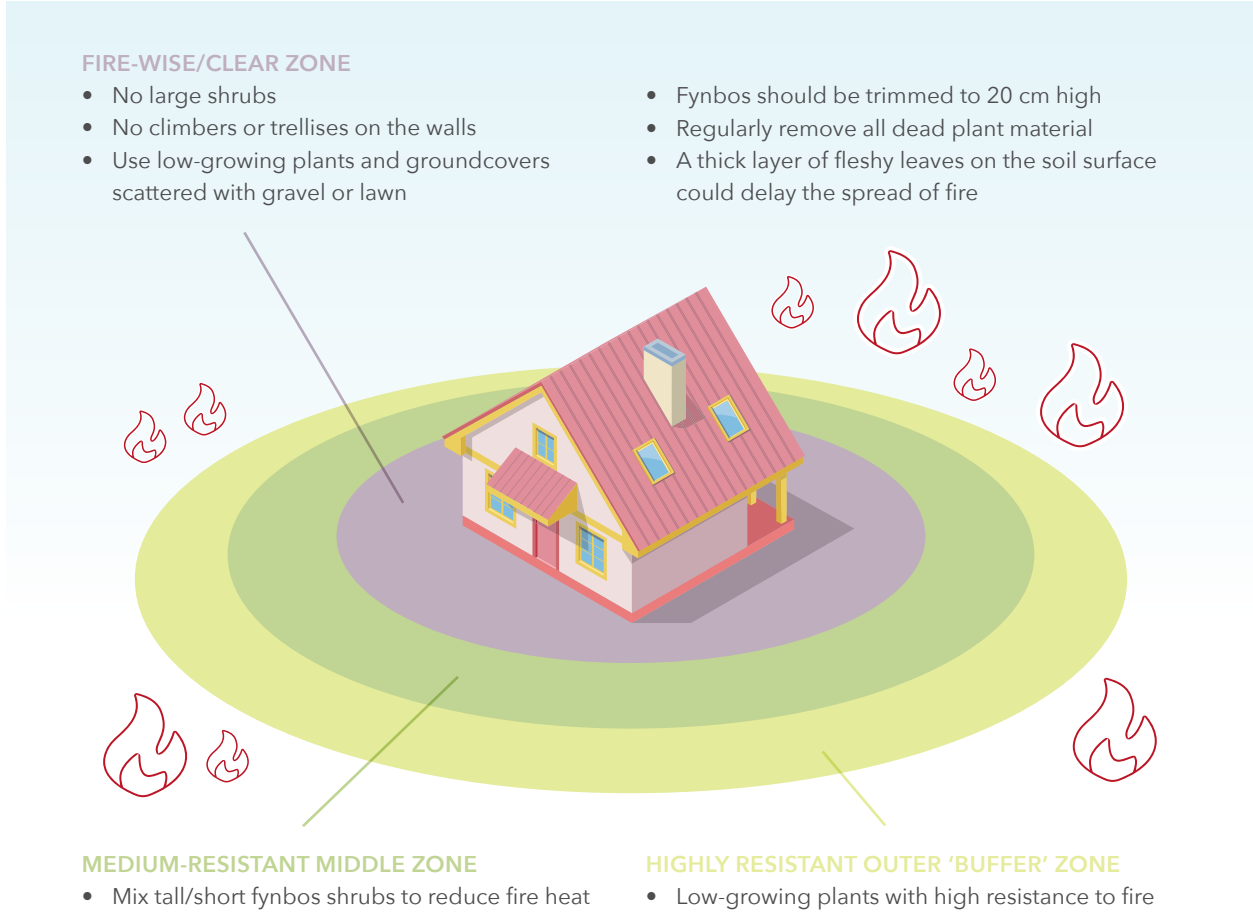


Figure 28: 'Firescaping' your garden. Illustration by CapeNature.

Remember, no plants are fire-resistant; all of them will eventually burn given a hot enough fire. However, placing plants according to how long they can resist burning and their fire retardant effect can assist with ‘firescaping’. Moreover, ensure regular tree and shrub maintenance as well as gutter clearing on the property to reduce fuel load from dead material and prevent flammable materials from accumulating.

- 10.1 Plant your garden with a ‘fire-resistant’ buffer zone on the periphery, a medium-resistance ring within that, and an approximately 3 m wide low-resistance band around the house.
- 10.2 In the buffer zone, plant low-growing groundcovers with fleshy leaves that have high resistance to fire. These succulent groundcovers also provide a fire refuge for animals. The plants should be watered at least once a week to retain their high fire-resistant quality. Suitable bulbs that do not produce many dry leaves in summer can also be planted. If a hedge is needed, use plants that re-sprout. Ideally, these should have succulent-like leaves and should not accumulate large quantities of dead material. A hedge should be as far from the house as possible, preferably 30 m. **See annexure G** for some species that are suitable to use in this zone.
- 10.3 In the medium-resistance zone, you may choose to plant a fynbos garden. Yet it is important to space tall and short



Figure 29: Examples of species suitable for ‘firescaping’ a property: Fire lily (*Cyrtanthus ventricosus*) and white bristle bush (*Metalasia muricata*).



The wall design for properties next to conservation areas should be visually permeable to enhance surveillance, with a continuous low kicker wall to limit the spread of invasive alien plants and ground fires.

shrubs to prevent a dense thicket of continuous fuel developing, which could support a very hot fire. Re-sprouters (plants whose root systems enable them to re-grow if burnt to the ground) are a good option for this zone, as are species with corky bark, which will offer protection from mild fire and will bud soon after fire, as well as some tree species that are naturally fire-resistant. Bulbs will also re-sprout quickly after fire, and re-seeding plants interspersed among a mix of fynbos plants will help ensure a degree of vegetation coverage soon after fire. **See annexure G** for some species that are suitable to use in this zone.

- 10.4 The low-resistance zone must be kept free of large shrubs and trees, and should contain low-growing plants and groundcovers, interspersed with gravel or lawn. A few standalone small shrubs with groundcovers around them can be planted. **See annexure G** for some species that are suitable to use in this zone.
- 10.5 No climbers or trellises should be attached to the walls of buildings in a high-risk fire area, as these can act as 'ladders' for the fire.
- 10.6 Ongoing garden maintenance is important to reduce fire risk to your property. This includes pruning of trees and shrubs, mowing, cleaning gutters, and removal and disposal of leaves and dead plant material.
- 10.7 A continuous low kicker wall, but with a visually permeable upper structure, can help prevent ground fires from entering a property.
- 10.8 It is important to clear and manage invasive alien species on or near your property (**see guideline 3**) and to remove all dead material from your site to reduce fuel loading and lower fire risk. The creation of firebreaks, as appropriate, is also important. The regulations on alien and invasive species under NEMBA as well as the National Veld and Forest Fire Act 101 of 1998 set certain legal requirements in this regard.
- 10.9 Additional information on 'firescaping' your garden, particularly in the fynbos biome, is available at https://cederbergfpa.co.za/2020/wp-content/uploads/2020/09/PDF-3_Fire-scapping.pdf and <https://www.capenature.co.za/uploads/files/WCG-Wild-Fire-Ready-Booklet.pdf>.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws, plans and guidelines relevant to this guideline:

- National Veld and Forest Fire Act 101 of 1998
 - National Environmental Management: Biodiversity Act (NEMBA) 10 of 2004
 - NEMBA invasive and alien species regulations, 2020 (as amended)
 - Climate Change Strategy, 2021
 - Climate Change Action Plan, 2021
- Resilience Strategy, 2019
 - Environmental Strategy, 2017
 - Bioregional Plan, 2015
 - Community Fire Safety By-law, 2002 (as amended)
 - Nature Reserve By-law, 2020
 - Natural Interface Study – Veldfire Planning Guidelines, 2004



Tygerberg Nature Reserve

GUIDELINE 11:

ADOPT RESERVE-FRIENDLY PRACTICES IN YOUR GARDEN IF YOU LIVE NEAR A PROTECTED NATURAL AREA

Cape Town is fortunate to have within its metropolitan boundary a national park, 21 City-owned nature reserves and a number of biodiversity conservation sites, as well as remnants of critically endangered biodiversity.

These natural open spaces protect globally important biodiversity and provide a wide range of ecosystem services. If you live next to or near a protected area or remnant of natural vegetation in Cape Town, it is important to adopt reserve-friendly practices to prevent your actions and activities from having an adverse impact on your sensitive surroundings. This especially applies to what you grow in your garden and how you deal with waste.

In particular, it is important to protect the integrity of the gene pool of the plants in protected areas by limiting the opportunities for different species to hybridise.

In addition, since fynbos plants are adapted to live in low-nutrient environments, the adjacent environment should not be enriched with fertilisers, as nitrogen and phosphorous are harmful to fynbos species.

- 11.1 Control any invasive alien species on your property ([see guideline 3](#)). They are the second-biggest threat to biodiversity, after habitat destruction.
- 11.2 Dumping of any plant material or other waste in a protected area is illegal.
- 11.3 Do not dispose of weeds, especially invasive alien species, on your compost heap, as the seed could spread into the protected area. The City has [various drop-off sites](#) that accept garden waste in addition to other items.
- 11.4 Try not to plant indigenous species that occur naturally in the neighbouring protected area, in your garden, unless they have been propagated from local plants. This includes stock from nearby nurseries if the origin of the plants cannot be determined. This is to help protect the genetic integrity of the plants in the protected area.

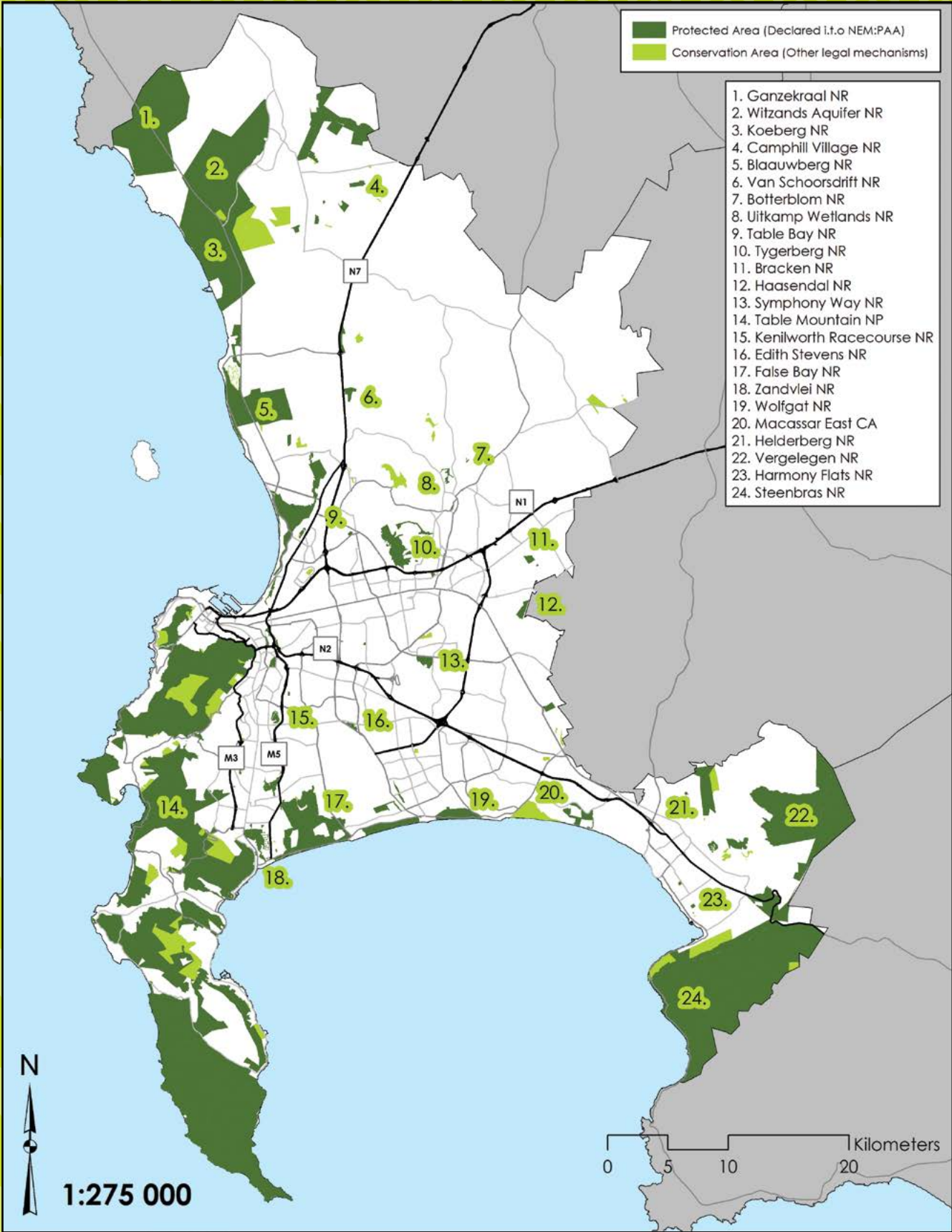


Figure 30: Sugarbirds (*Promerops cafer*) are common visitors to gardens with native, nectar-rich plants.

- 11.5 Do not plant *Proteaceae* (proteas, sugarbush, spiderheads, pincushions, pagodas and cone bushes) if your garden is within 2 km of natural veld. Other plants to avoid because they readily hybridise include ericas, bulbs, bietou (*Osteospermum moniliferum*), agapanthus and March lilies (*Amaryllis belladonna*). Bietous have palatable berries, so are often also spread outside of the intended area by birds, where the plants displace other species.
- 11.6 It is best to avoid the use of pesticides and herbicides in your garden. Rather opt for natural remedies and control methods wherever possible. Pesticides may affect pollinators and the plants that depend on pollinators. Herbicides, in turn, may leach into the soil and harm or kill plants in the protected area.
- 11.7 If fertilisers are required in the garden, choose the organic, slow-release kind, and then use it only in moderation, when necessary. Organic compost is preferred to fertiliser.
- 11.8 If you are planting a lawn, choose buffalo grass (*Stenotaphrum secundatum*), which is well adapted to the soils and climate of Cape Town. Couch grass or kweek (*Cynodon dactylon*) also does well in our soils and climate, though it tends to spread quickly to other areas. Do not plant kikuyu grass (*Pennisetum clandestinum*), as it is difficult to control and invades through boundary fences into the natural veld.
- 11.9 Rather do not add fish, frogs or tadpoles to your garden pond, as these can introduce disease to species occurring naturally in the protected area. Instead, make your garden and pond attractive, accessible and safe for frogs and toads to colonise from the surrounding natural areas.
- 11.10 Instead of providing a constant supply of sugar water in nectar-feeder bottles, consider planting flowering plants that will attract sunbirds and other nectar feeders (see <https://www.theplantlibrary.co.za> and <https://ingcungcu.org/plant-lists/>). Also, think of bird food (e.g. seeds, fruit, sugar water) as an occasional, irregular ‘treat’, rather than having it constantly available.
- 11.11 Where necessary, prevent animal access to food gardens and compost heaps, especially where the latter includes food scraps. In certain areas of Cape Town, it may be necessary to ‘baboon-proof’ food gardens and compost heaps.



Figure 31: Other common visitors to gardens include (from left to right) the southern lesser double-collared sunbird (*Nectarinia chalybea*), Cape river frog (*Amietia fuscigula*) and fynbos blue (*Tarucus thespis*).



Map 4: Protected areas and conservation areas in the city of Cape Town.

- 11.12 Rather than an open compost heap, consider using closed composting bins, as these limit access to the material inside and will also not attract wild animals. You can apply to the Urban Waste Management Department for a [City-provided, closed, recycled-plastic composter](#).
- 11.13 When using greywater for watering your garden, be aware that it may be harmful to natural vegetation, so prevent any overflow or seepage into the protected area (**see guideline 6**).
- 11.14 When abstracting water from a borehole or wellpoint for your garden or other purposes, do so responsibly. Be mindful that increased abstraction, especially in summer, affects the water table, with negative consequences for wetlands, natural areas and nature reserves. Groundwater abstraction must be recorded and reported (**see guideline 6**).
- 11.15 Gardens should not pose a fire risk to natural areas, and vice versa. Maintain the vegetation on your property, reduce dry leaf litter, and plant less fire-prone vegetation (**see guideline 10**).
- 11.16 Be careful when placing outdoor and garden lighting. Ensure that no lights, especially spotlights, are angled into the protected area, as this can have a negative impact on wildlife, especially nocturnal fauna. Downlighting is preferred, and security lights should ideally be equipped with motion sensors to illuminate only when needed.
- 11.17 Do not approach, corner, trap, harm or interfere with wildlife that may come onto your property. If necessary, contact the staff at the protected area closest to you for assistance. **See annexure B** for contact details for the various nature reserves.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation, City policies, by-laws and plans relevant to this guideline:

- National Environmental Management: Biodiversity Act (NEMBA) 10 of 2004
- NEMBA invasive and alien species regulations, 2020 (as amended)
- National Environmental Management: Protected Areas Act 57 of 2003
- National Veld and Forest Fire Act 101 of 1998
- Bioregional Plan for Cape Town, 2015
- Local Biodiversity Strategy and Action Plan (LBSAP), 2019
- Environmental Strategy, 2017
- Nature Reserve By-law, 2020
- Community Fire Safety By-law, 2002 (as amended)



Yellow pincushion (*Leucospermum cordifolium*)

GUIDELINE 12:

'REWILD' YOUR GARDEN, AND SUPPORT URBAN NATURE

A garden can be a haven for small wildlife such as birds, reptiles (lizards and geckos), insects and, depending on where you live, even small mammals and amphibians. How we plant and maintain our gardens can help provide food, shelter and water for a variety of species that may visit. Even a few container plants and readily available water can help.

Manicured gardens and lawns may look beautiful, but they are something of a 'green desert' in terms of their value as habitat for garden wildlife. Having a variety of spaces in your garden, such as dense shrubbery, flowering garden beds, indigenous grasses, rocks or rockeries, groundcovers and areas of soil, as well as leaving fallen leaves, sticks and logs to rot, or areas of lawn unmown, all provide our garden visitors with various potential habitats, opportunities for nesting or breeding, and food sources.

A 'wild' garden is about creating an environment where nature can thrive. This often involves combining vegetation with other natural elements, such as rocks, sand and logs.

Gardens, and particularly gardens with some 'wild' characteristics, also help provide 'stepping stones' across the suburban landscape, assisting pollinators (such as bees, butterflies and sunbirds) to move between areas of natural vegetation. They can also be a refuge for species such as chameleons.

By making your garden a biodiverse haven, you can help keep important pollinators thriving, provide a home for a variety of small creatures, and create your own healthy garden ecosystem.

- 12.1 Plant a wide variety of different plants, rather than swathes of a single plant, as well as plants that flower at different times of the year. This will ensure a variety of food sources for various pollinator species throughout the year.



Figure 32: A vibrant plain tiger butterfly (*Danaus chrysippus*) enjoying a 'wild' garden.

- 12.2 To help support a diversity of bird and insect pollinators and seed dispersers, choose plants that provide different flower shapes, colours, scents, sizes, fruit and berries.
- 12.3 Plant local indigenous vegetation wherever possible, as these will likely be more attractive to local faunal species. For information on species suitable for attracting wildlife, see <https://www.theplantlibrary.co.za/wildlife>. Be sure, however, to cross-check that the species is suitable for growing in the Western Cape (see <https://www.theplantlibrary.co.za/western-capeplants>). It is also useful to consult vegetation maps to understand the historic veld type of your area, which can help you select appropriate local species to plant (see <https://www.fynboslife.com/life-garden/>).
- 12.4 Choose plants that will attract different species of pollinators. For instance, plants with tubular flowers, such as aloes or wild dagga (*Leonotis leonurus*), will attract nectar-drinking birds such as sunbirds, while plants rich in pollen and/or nectar, such as lavenders or buchu (*Agathosma spp.*), will attract bees and butterflies. Night-scented plants, in turn, attract moths.
- 12.5 Wild dagga (*Leonotis leonurus*), Cape leadwort (*Plumbago auriculata*), Cape honeysuckle (*Tecomaria capensis*), pelargoniums, geraniums and buddlejas (*Buddleja spp.*) are some of the indigenous species favoured by butterflies. Other garden plant varieties that are known to attract butterflies include lavender, salvias and gauras.
- 12.6 Where possible, try to plant indigenous plants, as they will act as natural host plants for specific butterfly species. Tree species that serve as hosts for butterflies include the wild peach (*Kiggelaria africana*), which attracts the garden acraea (*Acraea horta*) butterfly, the Cape chestnut (*Calodendrum capense*), which is the host tree for the citrus swallowtail butterfly (*Papilio demodocus*), and the Cape willow (*Salix mucronata*), which is the host tree for the African leopard butterfly (*Phalanta phalantha aethiopica*). Other host plants include pelargonium and geranium species, which attract the geranium bronze butterfly (*Cacyreus marshalli*), and spurflowers (*Plectranthus spp.*), which attract the garden commodore butterfly (*Precis archesia*).



Figure 33: Cape honey bee (*Apis mellifera ssp. capensis*) pollinating white bristle bush (*Metalasia muricata*).

- 12.7 Indigenous grass species can look beautiful in a garden, and when their flowers turn to seed, they will attract seed-eating birds. Examples of bird-attracting grasses are broad-leaved bristle grass (*Setaria megaphylla*), heart-seed love grass (*Eragrostis capensis*), ngongoni grass (*Aristida junciformis*), red grass (*Themeda triandra*) and Natal red-top (*Melinis repens*).
- 12.8 Plants with fruit or berries will also be good attractors for fruit-eating birds. Consider, for instance, Cape holly (*Ilex mitis*), crossberry (*Grewia occidentalis*), big num-num (*Carissa macrocarpa*), karees (*Searsia spp.*, formerly known as *Rhus spp.*) and falling stars (*Crocosmia aurea*).
- 12.9 Install a birdbath or build a pond to provide habitat for some species, and a water source for others. This will be particularly welcome during the hot, dry summer months. You could even make a water feature using old household items that would otherwise have gone to waste. The water should be fairly shallow, and the sides of the feature not too steep or smooth. Stones or gravel could even be placed on one side to help small creatures get out of the water should they fall in.
- 12.10 Some bigger trees in your garden will offer birds a safe place to build their nests. You can provide nesting materials by leaving twigs that fall from bushes on the ground, growing plants with fluffy, soft, silky seeds such as wild rosemary (*Eriocephalus africanus*) for lining nests, and leaving longish pieces of dried grass in an accessible spot when you trim longer grass. A shady area in your garden could provide some soft moss, and a patch of mud could encourage birds such as swallows and swifts, who build their nests from mud.
- 12.11 Consider having an owl or bat box installed in your garden to encourage these species to nest or roost. They can also assist with natural pest control. There are numerous design and tutorials on the internet to help you build your own. For example, see <https://www.birdlife.org.za/old-navigation/owl-boxes/>. The basic design may need to be amended slightly depending on whether one is wanting to attract a specific species, e.g. spotted eagle owl or a barn owl.



Figure 34: Examples of two owl boxes, each designed to accommodate different owl species and their specific nesting needs.

- 12.12 You might want to include a bee hotel in your garden, which offers solitary bees a safe place to rest and breed. A bee hotel is a small wooden structure made from untreated pine, with different-sized holes drilled in it to mimic the holes that solitary bees would find in nature.
- 12.13 When trying to encourage pollinators and other species to visit your garden, it is important not to use pesticides, as these are likely to kill them. Use pesticides only as a last resort, and then only in response to a specific problem area or species. Choose a brand that contains the least harmful compounds. Wherever possible, use natural remedies such as planting or making a spray from aromatic herbs, planting other pest-deterrent plants (e.g. marigolds in a vegetable garden), or letting the natural ecosystem in the garden respond to keep pests in balance (e.g. birds eating caterpillars and other insects, or ladybirds eating aphids).
- 12.14 Be on the lookout for the Cape dwarf chameleon (*Bradypodion pumilum*), a near-threatened species that is endemic to the southwestern Cape. Adult Cape dwarf chameleons have a variety of bright colours, depending on their habitat, and have an average maximum length of around 14 cm. Juveniles have a dull colouration and are smaller. Always check garden refuse for chameleons prior to disposal to prevent them from being accidentally transported to a drop-off or landfill site. Also be on the lookout for them when pruning vegetation in the garden.
- 12.15 If you have a swimming pool, consider changing it from a chemical-based pool to a natural one, where natural filtration (plants and microbes) rather than a chemical (chlorine and others) cleans the water. If properly designed, you can achieve the same water clarity as a chemical-based pool, while also enjoying biodiversity and landscaping benefits. If you are thinking of installing a new pool, consider making it a natural pool.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key legislation and City policies and plans relevant to this guideline:

- National Environmental Management: Biodiversity Act 10 of 2004
 - Bioregional Plan for Cape Town, 2015
- Local Biodiversity Strategy and Action Plan (LBSAP), 2019
 - Environmental Strategy, 2017



The original swimming pool at Edith Stephens Nature Reserve has been left to rewild into a pond.

GUIDELINE 13:

BECOME ACTIVELY INVOLVED AND COLLABORATE WITH THE CITY AND YOUR COMMUNITY IN MAINTAINING AND ENHANCING THE CITY'S URBAN GREEN FABRIC

If well maintained, managed and utilised, our green and natural spaces can be valuable community assets. These areas provide for, among others, a range of passive and active recreational activities, outdoor education opportunities, and biodiversity habitat. Sadly, though, despite many positive stories, there are also various green spaces that are neglected and not allowed to fulfil their potential as the valuable community assets they can be.

In many instances, communities have joined hands with the City, or taken the lead themselves, in transforming underutilised, undervalued or poorly maintained green spaces into useful community assets.

By volunteering and working together, and having active and inspired citizens, a real opportunity exists to achieve green open space enhancements that offer social, ecological and economic benefits, including increased safety and social cohesion.



Figure 35: In a demonstration of collaboration, City staff, Princess Vlei Forum members, and community volunteers united to plant 760 native Cape Flats sand fynbos plants, working together to restore the Princess Vlei area as part of a comprehensive rehabilitation plan.

- 13.1 Before undertaking any enhancement activities in a green space, always engage with the landowner to obtain permission to do so, and ensure that what is undertaken will be sustainable into the future.
- 13.2 Be cognisant of any utility services that may be affected by proposed activities (e.g. buried cables or pipelines that will be affected by digging planting holes, or overhead utility lines that could be affected by tree branches in the future). In certain instances, wayleaves may need to be obtained, and if you plan on planting trees on the sidewalk or road verge, you will require permission from the City's Recreation and Parks Department. **See guideline 4** and **annexure B** for contact details.
- 13.3 Cape Town is fortunate to have a very active network of community groups and non-governmental organisations. These include Friends groups of both parks and nature reserves, as well as clubs and societies such as the Cape Bird Club and the Botanical Society (including the Botanical Society's Custodians of Rare and Endangered Wildflowers programme) and other volunteer organisations such as the Volunteer Wildfire Services. Depending on where you live and what you are interested in, there are many opportunities for participation.
- 13.4 Support or join existing community groups, ratepayers' associations or non-governmental organisations who work in your area, or in a green space that you love and utilise. Start or potentially revive a dormant Friends group, or



Figure 36: Community members worked alongside the City to enhance Kent Road Park in Newlands by installing a wooden deck, swing, and gym equipment. They continue to maintain the park, making it a vibrant community space.

- 'adopt a plot' to green or help maintain a specific area. A group of neighbours in the street could also cooperate and plant trees to create a tree avenue. Your support could take the form of active participation in projects and greening efforts, or financial or other material donations. For contact information for many of the organisations active in Cape Town, **please consult annexure H**.
- 13.5 Encourage the naturalisation of suitable public open spaces in your community. For instance, work with the City's Recreation and Parks Department to replace grass on road verges with indigenous plants, or look for opportunities to incorporate natural elements for 'wild play', such as fallen or cut-up logs that can be climbed or jumped on in play areas. You could also encourage schools to start indigenous gardens around playgrounds and field edges, as well as plant trees.
- 13.6 Become involved in projects that help create fynbos 'stepping stone' corridors across Cape Town, linking areas of conservation importance through the planting of fynbos and pollinator-friendly gardens. These gardens may be created in previously undervalued or neglected spaces, which will help improve the surrounding areas too. One such initiative is the [Fynbos Corridor Collaboration](#), and another is the [Ingcungcu sunbird restoration project](#). For a framework on how to create a fynbos 'stepping stone', see <https://www.fynboscorridors.org/fynbos-rehabilitation/>.



Figure 37: Pupils participating in environmental initiatives like a waste clean-up or tree planting or vegetation planting learn about conservation, and see first-hand how their actions can positively impact the environment.

- 13.7 Become a citizen scientist by using a platform such as [iNaturalist](#). This allows you to help build a database of information gathered from the green spaces in Cape Town, which, in turn, help inform science and management.
- 13.8 Participate in the annual iNaturalist City Nature Challenge, a global competition to see which city can record the highest number of observations and species (both fauna and flora). [The challenge](#) normally takes place in late April to early May. Help Cape Town retain its status as a leading global city in the challenge by recording as many different species as possible in your garden, local area, or any other green space in Cape Town.
- There is also an [annual Great Southern Bioblitz](#), which normally takes place in October to coincide with the southern hemisphere's spring. This, too, is aimed at recording as many observations as possible, also using the iNaturalist platform. Again, Cape Town is one of the most active of the participating cities.
- 13.9 Get involved as an active citizen, and comment on documents or processes out for public comment that may have an impact on the future of our urban green fabric. These could include EIA processes, development proposals, and City strategies, policies and by-laws. City processes are [advertised on the City's website](#).
- 13.10 Alert relevant authorities if you see or hear of activities that are harming our natural environment. **See annexure B** for contact details.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key City policies, by-laws and plans relevant to this guideline:

- Environmental Strategy, 2017
 - Bioregional Plan for Cape Town, 2015
 - Local Biodiversity Strategic Action Plan (LBSAP), 2019
- Public Parks By-law, 2010
 - Volunteer Policy Framework, 2016
 - Nature Reserve By-law, 2020



Experiential Educational Garden at the Green Point Urban Park.

GUIDELINE 14:

KEEP OUR ENVIRONMENT FREE OF POLLUTION AND LITTER

Our environment is becoming more and more polluted. This affects our natural resources as well as our ability to enjoy and benefit from the environment and the ecosystem services it provides. Much of the pollution is as a result of poor waste management practices, including illegal dumping and littering, with plastic pollution a growing problem.

Illegal dumping is a particular challenge in Cape Town. It is expensive to clean up, damages our environment, and is harmful to human and animal health. Via stormwater drains, litter makes its way into watercourses and ultimately the ocean, affecting both freshwater and marine ecosystems.

Waste discarded into the sewage system can block the system, resulting in sewer overflows. This not only affects our living environment, but the sewage also finds its way into watercourses via stormwater drains, affecting water quality and ecological function.

A polluted environment is both unhealthy and aesthetically unpleasant. This can have a socioeconomic knock-on effect. Tourism can start declining, as a degraded environment is not appealing to visit, and residents may experience a lack of civic pride, which often plunges communities into a downward spiral.

We all have a duty to manage our waste responsibly and encourage others to do the same. Make sure that you dispose of your waste appropriately in the correct containers, and if you see illegal dumping taking place, please report it.



Figure 38: Every piece of litter picked up brings us closer to a cleaner planet.

- 14.1 Dumping of waste on any public land is illegal and an offence. If you are found guilty of illegal dumping, you could be fined up to R10 000 and/or face up to two years in prison.
- Report illegal dumping to the City through any of the following channels:
Online: www.capetown.gov.za/servicerequests or call: **086 010 3089**
- Visit a City walk-in centre: <https://www.capetown.gov.za/Family%20and%20home/See-all-City=facilities/Our-service-facilities/Walk-in%20centres>
- Via the City's app: Download the City of Cape Town app ad-free and at no cost from the [Apple App Store](#) and [Google Play Store](#) by searching for 'City of Cape Town'. The app will also be added to the Huawei gallery shortly.
- 14.2 As far as possible, reduce the amount of waste you generate, and reuse or recycle items rather than disposing of them. The City has a [number of drop-off facilities](#) where recyclables and organic waste can be taken. Alternatively, there are [other recycling options](#), including private recycling contractors, buyback centres and other initiatives.
- 14.3 Join in or start community clean-ups to help remove waste that has accumulated in the environment. Regular beach clean-ups are arranged by various organisations. Enter 'beach clean-up' on Google to find out where and when these initiatives are happening.
- 14.4 Be an active citizen and pick up litter when you see it; small actions can have big impact. For example, picking up a chip or plastic packet from the road or sidewalk prevents it from being washed into a stormwater drain and finding its way into a watercourse and possibly the ocean, where it could be ingested by a marine animal or washed up onto a beach.
- 14.5 Do not discard foreign objects or fats into the sewer system. This blocks the system, which leads to overflows and subsequent environmental harm. Remember: "Bin it. Don't Block It."
- 14.6 For more information on ways to prevent the pollution of watercourses, see the [GIP guidelines on urban watercourses](#).

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key City policies and by-laws relevant to this guideline:

- Environmental Strategy, 2017
- Integrated Waste Management By-Law, 2009 (as amended)
- Integrated Waste Management Policy, 2020
- Management of Urban Stormwater Impacts Policy, 2009
- Public Parks By-law, 2010
- Stormwater Management By-Law, 2005
- Wastewater and Industrial Effluent By-law, 2013



Join community clean-ups or simply pick up litter when you see it to make a difference. Photo by Shark Spotters

GUIDELINE 15:

BE CAREFUL WHEN USING HERBICIDES, PESTICIDES AND FERTILISERS

Herbicides, pesticides and fertilisers are often used to control weeds and pests, and encourage plant growth in gardens, parks and sports fields.

Yet they could have a negative impact on the environment and human health through improper use, runoff, leaching and spray drift, contaminating surface and groundwater, affecting pollinators and the plants depending on them, and harming or killing other vegetation. High nutrient loading from fertilisers can also lead to eutrophication of waterbodies, with a negative impact on biodiversity, such as fish die-offs.

Methods or products that achieve the desired results, but with the least potential of doing environmental harm, are always preferred. If alternatives are not available or feasible, the use of herbicides and pesticides should occur with great care and with due regard to correct application and the proper disposal of surplus product and containers.



Figure 39: The City has adopted various strategies to manage invasive species, including the prevention, early detection and rapid response, containment, control and eradication of invasive species, as well as restoration of affected areas. Here manual removal of aquatic invasive alien species is being undertaken rather than using chemical options.

- 15.1 Minimise the use of herbicides and pesticides as far as possible. If you need to use them, choose ones that contain the least harmful compounds. Preferably use products made with natural ingredients.
- 15.2 Seek alternative, more natural forms of weed and pest control. These could include manual removal of weeds or pests (e.g. snails), steaming, applying a vinegar solution or boiling water to kill weeds in paving, or companion planting to deter pests in a natural way.
- 15.3 If herbicide or pesticide application is required, spot-apply rather than using a broadcast application.
- 15.4 Always remember to use personal protective equipment such as gloves, mask and goggles when working with herbicides and pesticides.
- 15.5 Refrain from applying pesticides before rain, or spraying them when it is windy. This is to prevent runoff and spray drift respectively.
- 15.6 Herbicides, pesticides and fertilisers should be used with great caution in areas adjacent to waterbodies to prevent runoff into watercourses or wetlands. The same caution should be applied in areas adjacent to food crops, areas of high biodiversity, and protected areas (**see guideline 11**).
- 15.7 If herbicides or pesticides are used in publicly accessible locations, consider placing signage to warn of their use so that people can take the necessary precautions to minimise contact directly after application.
- 15.8 Where fertilisers are absolutely essential in the garden, it is best to use organic, slow-release fertilisers. However, organic compost remains the preferred option.
- 15.9 Always dispose of surplus product and containers (especially those of pesticides and herbicides) in a responsible manner. Empty, cleaned containers should be cut up before being disposed of with household waste. This would prevent them from being reused, which poses a risk of contamination or poisoning. Containers with product should be disposed of at a facility that accepts household hazardous waste, such as the Athlone refuse transfer station or the Bellville integrated waste management facility. Note, though, that these facilities accept only low-hazard waste from residential properties, and there is a restriction of 50 kg or 50 ℓ per person per day. Larger loads and loads from businesses would need to follow the City's special waste process for possible disposal at the Vissershok landfill site. Surplus product should not be disposed of into stormwater drains.

LEGISLATIVE AND POLICY CONTEXT

Below is a list of key City policies and by-laws relevant to this guideline:

- Integrated Waste Management By-Law, 2009 (as amended)
- Integrated Waste Management Policy, 2020
- Management of Urban Stormwater Impacts Policy, 2009
- Stormwater Management By-Law, 2005
- Wastewater and Industrial Effluent By-law, 2013
- Environmental Strategy, 2017



Staff monitoring the health of a river.

ANNEXURE A

EXTRACTS FROM NEMA LISTING NOTICES RELATING TO VEGETATION REMOVAL

The following are the listed activities specific to the clearance of vegetation as they appear in listing notices 1, 2 and 3 of the regulations on environmental impact assessments (EIAs) (Regulations No. R. 983, 2014, as amended) under the National Environmental Management Act (NEMA) 107 of 1998. (See the City's [GIP guidelines on urban watercourses](#) for legislative extracts relevant to watercourses.)

These listed activities may not commence without authorisation from the competent authority (typically Province's Department of Environmental Affairs and Development Planning (DEA&DP)).

Listing notice 3 also identifies specific environmental attributes in a geographic area that will trigger the EIA process for identified activities. In the Western Cape, these attributes include critical biodiversity areas, areas of indigenous vegetation outside urban areas, areas zoned for conservation use, or areas designated for conservation use in spatial development frameworks adopted by the competent authority.

Listed activities are amended from time to time. Therefore, the legislation should always be consulted to ascertain whether an activity triggers an EIA process. DEA&DP can also be contacted to confirm listed activities.

The following definitions are of specific relevance:

"Indigenous vegetation" is vegetation consisting of indigenous plant species occurring naturally in an area, regardless of the level of alien infestation, and where the topsoil has not been lawfully disturbed during the preceding ten years.

"Maintenance" means actions performed to keep a structure or system functioning or in service on the same location, capacity and footprint.

"Urban areas" are areas situated within the urban edge (as defined or adopted by the competent authority), or where no urban edge or boundary has been defined or adopted, within the edge of built-up areas.

Listing notice 1 of 2014, as amended:
"Activity 27: The clearance of an area of 1 ha or more, but less than 20 ha of indigenous vegetation, except where such clearance of indigenous vegetation is required for

- (i) the undertaking of a linear activity; or
- (ii) maintenance purposes undertaken in accordance with a maintenance management plan."

Listing notice 2 of 2014, as amended:
"Activity 15: The clearance of an area of 20 ha or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for

- (i) the undertaking of a linear activity; or
- (ii) maintenance purposes undertaken in accordance with a maintenance management plan."

Listing notice 3 of 2014, as amended:
"Activity 12: The clearance of an area of 300 m² or more of indigenous vegetation, except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan."

"Western Cape"

- (i) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;
- (ii) Within critical biodiversity areas identified in bioregional plans;
- (iii) Within the littoral active zone or 100 m inland from highwater mark of the sea or an estuarine functional zone, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas;
- (iv) On land, where, at the time of the coming into effect of this Notice or thereafter, such land was zoned open space, conservation, or had an equivalent zoning; or
- (v) On land designated for protection or conservation purposes in an environmental management framework adopted in the prescribed manner, or a spatial development framework adopted by the MEC or Minister."

ANNEXURE B

USEFUL CONTACT DETAILS

CITY OF CAPE TOWN DEPARTMENTS

Emergency Contact Centre

To establish urgent contact, such as for Law Enforcement to respond to instances of active damage to natural assets (e.g. bark stripping), to report a fire, etc.

- 107 (from a landline)
- 021 480 7700 (from a cellphone)

Service Requests

To report any problems or service requests to the City

- Online: www.capetown.gov.za/servicerequests
- Call: 0860 103 089
- Visit a City walk-in centre: www.capetown.gov.za/facilities

Bulk Services Department (Water and Sanitation Directorate)

Catchment, Stormwater and River Management Branch:

- 021 400 1205
- water@capetown.gov.za

Development Management Department

<https://resource.capetown.gov.za/documentcentre/Documents/Forms%2c%20notices%2c%20tariffs%20and%20lists/TDA%20DM%20-%20Contacts.pdf>

Environmental Management Department

<https://www.capetown.gov.za/Departments/Environmental%20Management%20Department#section-6?>

Head office:

- 021 487 2284/2315/2319; enviro@capetown.gov.za

Environmental and Heritage Management Branch district offices:

- Online: https://resource.capetown.gov.za/documentcentre/Documents/Forms%2c%20notices%2c%20tariffs%20and%20lists/EHM_District_Offices_Contact_List.pdf

Biodiversity Management Branch head office:

- 021 444 1761

Biodiversity Management Branch Invasive Species Unit:

- 021 444 2357; invasive.species@capetown.gov.za

Biodiversity Management nature reserves:

- Online: <https://www.capetown.gov.za/Family%20and%20home/See-all-city-facilities/Our-recreational-facilities/Nature%20reserves>

Marine and Environmental Law Enforcement Unit:

- 021 480 7700

Recreation and Parks Department

- 021 400 4688/3734/9538/9534 (after-hours 021 957 4700)
- rp.enquiries@capetown.gov.za
- arborist@capetown.gov.za

NATIONAL AND PROVINCIAL DEPARTMENTS

National Department of Forestry, Fisheries and the Environment

Environmental crimes hotline:

- 0800 205 005
- www.dffe.gov.za

Biosecurity Directorate:

- 021 441 2812/2748
- iascompliance@env.gov.za
- aispermits@environment.gov.za

Forestry (protected tree licences):

- 021 944 1416

National Department of Water and Sanitation

- 021 941 6100
- www.dws.gov.za

Provincial Department of Environmental Affairs and Development Planning

- 021 483 4091
- enquiries.eadp@westerncape.gov.za
- www.westerncape.gov.za/eadp

OTHER

- Botanical Society of South Africa: <https://botanicalsociety.org.za/>
- CapeNature: <https://www.capenature.co.za/contact-us>
- Green Building Council South Africa: <https://gbcsa.org.za/>
- South African National Biodiversity Institute: <https://www.sanbi.org/contact/>
- South African Green Industries Council: www.sagic.co.za
- South African Landscapers Institute: www.sali.co.za
- SANParks Table Mountain national park: https://www.sanparks.org/parks/table_mountain/about/contact.php
- Volunteer Wildfire Services: www.vws.org.za; info@vws.org.za
- Western leopard toad hotline: 082 516 3602

ANNEXURE C

LIST OF SOUTH AFRICA’S PROTECTED TREES

PROTECTED TREE SPECIES IN TERMS OF THE NATIONAL FORESTS ACT 84 OF 1998, REGULATION NO. 1935, GAZETTE NO. 46094 OF 25 MARCH 2022

These trees may not be cut, damaged, disturbed or destroyed without a permit from the national Department of Forestry, Fisheries and the Environment.

Botanical name	Common name in English	Other names Afrikaans (A), Sepedi (P), Sesotho (S), Setswana (T), Tshivenda (V), isiXhosa (X), isiZulu (Z), Northern Sesotho (NS), Xitsonga (TS)	Tree no.
<i>Acacia erioloba</i>	Camel thorn	Kameeldoring (A) / Mogohlo (NS) / Mogotlho (T)	168
<i>Acacia haematoxylon</i>	Grey camel thorn	Vaalkameeldoring (A) / Mokholo (T)	169
<i>Adansonia digitata</i>	Baobab	Kremetart (A) / Seboi (NS) / Mowana (T)	467
<i>Afrocarpus falcatus</i> (<i>Podocarpus falcatus</i>)	Outeniqua yellowwood	Outeniekwa-geelhout (A) / Mogôbagôba (NS) / Umkhoba (X) / Umsonti (Z)	16
<i>Azelia quanzensis</i>	Pod mahogany	Peulmahonie (A) / Mutokota (V) / Inkehli (Z)	207
<i>Balanites maughamii</i>	Torchwood	Groendoring (A) / Ugobandlovu (Z)	251
<i>Barringtonia racemosa</i>	Powderpuff tree	Poeierkwasboom (A) / Iboqo (Z)	524
<i>Berchemia zeyheri</i>	Red ivory	Rooi-ivoor (A) / Rooihout (A) / Monee (S) / umNini (Z, X) / Xiniyani (TS) / Moyo (T) / Munia-niane (V)	450
<i>Boscia albitrunca</i>	Shepherd's tree	Witgat (A) / Mohlôpi (NS) / Motlhôpi (T) / Muvhombwe (V) / Umgqomogqomo (X) / Umvithi (Z)	122
<i>Brachystegia spiciformis</i>	Msasa	Msasa (A)	198.1
<i>Breonadia salicina</i>	Matumi	Mingerhout (A) / Mohlomê (NS) / Mutu-lume (V) / Umfomfo (Z)	684
<i>Bruguiera gymnorhiza</i>	Black mangrove	Swartwortelboom (A) / Isikhangati (X) / Isihlobane (Z)	527
<i>Cassipourea swaziensis</i>	Swazi onionwood	Swazi-ueihout (A)	531.1
<i>Catha edulis</i>	Bushman's tea	Boesmanstee (A) / Mohlatse (NS) / Igqwaka (X) / Umhlwazi (Z)	404
<i>Ceriops tagal</i>	Indian mangrove	Indiese wortelboom (A) / Isinkaha (Z)	525
<i>Cleistanthus schlechteri</i> var. <i>schlechteri</i>	False tamboti	Vals tambotie (A) / Umzithi (Z)	320
<i>Colubrina nicholsonii</i>	Pondo weeping thorn	Pondo-treurdoring (A)	453.8
<i>Combretum imberbe</i>	Leadwood	Hardekool (A) / Mohwelere-tšhipi (NS) / Motswiri (T) / Impondondlovu (Z)	539
<i>Curtisia dentata</i>	Assegai	Assegai (A) / Umgxina (X) / Umagunda (Z)	570
<i>Diospyros mespiliformis</i>	Jackalberry	Jakkalsbessie (A) / Musuma (V) / Muntoms (TS) / Mgula (TS)	606
<i>Elaeodendron transvaalense</i>	Bushveld saffron	Bosveldsaffraan (A) / Monomane (T) / Ingwavuma (Z)	416
<i>Erythrophysa transvaalensis</i>	Bushveld red balloon	Bosveld-rooiklapperbos (A) / Mofalatsane (T)	436.2
<i>Euclea pseudebenus</i>	Ebony guarri	Ebbehout-ghwarrie (A)	598
<i>Ficus trichopoda</i>	Swamp fig	Moerasvy (A) / Umvubu (Z)	54

Botanical name	Common name in English	Other names Afrikaans (A), Sepedi (P), Sesotho (S), Setswana (T), Tshivenda (V), isiXhosa (X), isiZulu (Z), Northern Sesotho (NS), Xitsonga (TS)	Tree no.
<i>Leucadendron argenteum</i>	Silver tree	Silwerboom (A)	77
<i>Lumnitzera racemosa</i> var. <i>racemosa</i>	Tonga mangrove	Tonga-wortelboom (A) / Isikhaha-esibomvu (Z)	552
<i>Lydenburgia abbottii</i>	Pondo bushman's tea	Pondo-boesmanstee (A)	407
<i>Lydenburgia cassinoides</i>	Sekhukhuni bushman's tea	Sekhukhuni-boesmanstee (A)	406
<i>Mimuspops caffra</i>	Coastal red milkwood	Kusrooimelkhout (A) / Umthunzi (X) / Umkhakhayi (Z)	583
<i>Newtonia hildebrandtii</i> var. <i>hildebrandtii</i>	Lebombo wattle	Lebombo-wattel (A) / Umfomothi (Z)	191
<i>Ocotea bullata</i>	Stinkwood	Stinkhout (A) / Umhlungulu (X) / Umnukane (Z)	118
<i>Ozoroa namaquensis</i>	Gariep resin tree	Gariep-harpuisboom (A)	373.2
<i>Philenoptera violacea</i>	Apple-leaf	Appelblaar (A) / Mphata (NS) / Mohata (T) / Isihomohomo (Z)	238
<i>Pittosporum viridiflorum</i>	Cheesewood	Kasuur (A) / Kgalagangwe (NS) / Umkhwenkwe (X) / Umfusamvu (Z)	139
<i>Podocarpus elongatus</i>	Breede River yellowwood	Breederivier-geelhout (A)	15
<i>Podocarpus henkelii</i>	Henkel's yellowwood	Henkel-se-geelhout (A) / Umsonti (X) / Umsonti (Z)	17
<i>Podocarpus latifolius</i>	Real yellowwood	Opregte geelhout (A) / Mogôbagôba (NS) / Umcheya (X) / Umkhoba (Z)	18
<i>Protea comptonii</i>	Saddleback sugarbush	Barberton-suikerbos (A)	88
<i>Protea curvata</i>	Serpentine sugarbush	Serpentyn-suikerbos (A)	88.1
<i>Prunus africana</i>	Red stinkwood	Rooi stinkhout (A) / Umkhakhase (X) / Umdumezulu (Z)	147
<i>Pterocarpus angolensis</i>	Wild teak	Kiaat (A) / Morôtô (NS) / Mokwa (T) / Mutondo (V) / Umvangazi (Z)	236
<i>Rhizophora mucronata</i>	Red mangrove	Rooiwortelboom (A) / Isikhangathi (X) / Umhlume (Z)	526
<i>Schinziophyton rautanenii</i>	Manketti	Mankettiboom (A) / Monghongho (T) / Mokongwa (T)	337
<i>Sclerocarya birrea subsp. caffra</i>	Marula	Maroela (A) / Morula (NS) / Morula (T) / Umganu (Z)	360
<i>Securidaca longepedunculata</i>	Violet tree	Krinkhout (A) / Mmaba (T)	303
<i>Sideroxylon inerme subsp. inerme</i>	White milkwood	Witmelkhout (A) / Ximafana (X) / Umakhwelafingqane (Z)	579
<i>Tephrosia pondoensis</i>	Pondo poison pea	Pondo-gifertjie (A)	226.1
<i>Umtiza listeriana</i>	Umtiza	Omtisa (A)	205
<i>Warburgia salutaris</i>	Pepper-bark tree	Peperbasboom (A) / Molaka (NS) / Mulanga (V) / Isibaha (Z)	488
<i>Widdringtonia cedarbergensis</i>	Clanwilliam cedar	Clanwilliam-seder (A)	19
<i>Widdringtonia schwarzii</i>	Willowmore cedar	Baviaanskloof-seder (A)	21

ANNEXURE D

GUIDELINES FOR TREE SPECIES SELECTION

The following list provides information on tree species identified as suitable to be planted in Cape Town. Those trees that are known to be hosts or reproductive hosts to the polyphagous shot hole borer are noted. Prepared by the Recreation and Parks Department, November 2022.

Botanical name	Common name: English	Common name: Afrikaans	Polyphagous shot hole borer (PSHB) (October 2022)	Indigenous	Drought tolerance	Suitable for pavements (narrow, smaller spaces)	Suitable for city centre/parking areas (non-invasive roots and smaller)	Size	Coastal areas	Sandy soils	Clay soils	Windy areas	Wind breaks	Screening	Birds/bees/butterflies	Scented trees	Fast-growing
			RH = reproductive host: avoid planting H = host: plant with care U = unknown: plant with care	Y = yes N = no	H = high M = medium L = low	Y = yes N = no	Y = yes N = no	S = <3 m M = 3-5 m L = +7 m								Produces nectar, pollen, fruit	
<i>Afrocarpus falcatus (male only) (Podocarpus)</i>	Outeniqua yellowwood	Outeniekwa-geelhout	H	Y	M	Y	Y	L			Y				Y		Y
<i>Agonis flexuosa</i>	Willow myrtle	Wilgermirt	U	N	H	Y	Y	M	Y	Y	Y	Y	Y	Y			
<i>Aloidendron barberae</i>	Tree aloe	Boomaalwyn	U	Y	M	Y	Y	M	Y	Y	Y				Y		
<i>Apodytes dimidiata</i>	Bird's eye	Witpeer	U	Y	M	Y	N	M	Y		Y			Y			
<i>Araucaria columnaris</i>	Captain Cook's pine	Nieu-Caledoniese den	U	N	M	N	N	L	Y	Y	Y	Y	Y				
<i>Araucaria heterophylla</i>	Norfolk pine	Norfolk-den	U	N	M	N	N	L	Y	Y	Y	Y	Y				
<i>Arbutus unedo</i>	Strawberry tree	Aarbeiboom	U	N	M	Y	Y	M	Y	Y	Y			Y	Y		
<i>Brabejum stellatifolium</i>	Wild almond	Wilde amandel	U	Y	M	N	N	M		Y	Y	Y		Y	Y		
<i>Brachychiton acerifolius</i>	Australian flame	Australiese vlam	H	N	M	N	N	L		Y	Y						
<i>Brachylaena discolor</i>	Coast silver oak	Kusvaalbos	RH	N	H	Y	N	M	Y	Y	Y	Y	Y	Y	Y		Y
<i>Buddleja saligna</i>	False olive	Saliehout	H	Y	H	Y	Y	M	Y		Y		Y	Y	Y		Y
<i>Burchellia bubalina</i>	Wild promegranate	Wildegranaat	U	Y	M/H	Y	N	M			Y				Y		
<i>Calodendrum capense</i>	Cape chestnut	Wildekastaing	H	Y	L/M	Y	N	L		Y	Y			Y	Y		
<i>Canthium inerme</i>	Turkey berry	Bokdrol	U	Y	M	Y	N	M	Y	Y	Y	Y		Y	Y	Y	
<i>Carissa macrocarpa (shrub)</i>	Num-num	Noem-noem	U	Y	M/H	Y	N	S	Y		Y			Y	Y	Y	
<i>Cassine crocea</i>	Bastard saffron	Bastersaffraan	U	Y	M	Y	N	M	Y			Y		Y	Y		
<i>Cassine peragua</i>	Cape saffron	Kaapse safraan	U	Y	M/H	Y	Y	M	Y			Y		Y	Y		
<i>Cedrus atlantica</i>	Atlas cedar	Atlasseder	U	N	M	N	N	L	Y	Y	Y	Y				Y	
<i>Cedrus deodara</i>	Deodar cedar	Deodarseder	U	N	M	N	N	L	Y	Y	Y	Y				Y	
<i>Cedrus libani</i>	Lebanese cedar	Libanonseder	U	N	M	N	N	L	Y	Y	Y	Y				Y	
<i>Celtis africana</i>	White stinkwood	Witstinkhout	H	Y	M/H	Y	Y	L			Y				Y		
<i>Celtis sinensis</i>	Chinese nettle tree	Chinese netelboom	U	N	M	Y	Y	L			Y				Y		
<i>Ceratonia siliqua</i>	Carob	Karob	U	N	H	Y	Y	L	Y	Y		Y		Y			
<i>Chionanthus foveolatus</i>	Pock ironwood	Pokysterhout	U	Y	M	Y	Y	M	Y	Y	Y	Y	Y	Y			
<i>Citrus limon</i>	Lemon	Suurlemoen	H	N	M	N	N	S			Y				Y	Y	
<i>Combretum erythrophyllum</i>	River bushwillow	Vaderlandswilg	RH	Y	H	Y	N	L			Y			Y	Y		
<i>Corymbia ficifolia (syn. Eucalyptus ficifolia)</i>	Red flowering gum	Rooibloembloekom	U	N	H	N	Y	L	Y	Y	Y	Y		Y	Y		
<i>Cunonia capensis</i>	Red alder	Rooiels	U	Y	L/M	Y	N	L			Y			Y	Y		
<i>Cupressus sempervirens</i>	Mediterranean cypres	Kerkhofsipres	U	N	M	Y	Y	M	Y	Y	Y	Y		Y		Y	
<i>Curtisia dentata</i>	Assegai	Assegai	U	Y	L/M	Y	N	L	Y		Y				Y		
<i>Cussonia spicata</i>	Cabbage tree	Kiepersol	H	Y	H	N	N	M	Y						Y		
<i>Dais cotinifolia</i>	Pom-pom	Pom-pom	U	Y	M	Y	Y	S							Y		
<i>Diospyros whyteana</i>	Bladder nut	Swartbas	U	Y	M	Y	Y	M				Y			Y		
<i>Dodonaea angustifolia</i>	Sand olive	Sandolien	U	y	H	y	N	S	Y			Y					Y
<i>Dombeya rotundifolia</i>	Wild pear	Wildepeer	H	Y	H	Y	Y	M	Y								
<i>Dovyalis caffra</i>	Kei apple	Keiappel	H	Y	H	N (fruit)	N (fruit)	M	Y					Y			
<i>Ekebergia capensis</i>	Cape ash	Kaapse essenhout	H	Y	M/H	N	Y	L	Y						Y		
<i>Encephalartos spp.</i>	Cycads	Broodboom	U	Y	M/H	N	N	S	Y		Y	Y					

 Trees known to be subject to bark stripping

ANNEXURE D

GUIDELINES FOR TREE SPECIES SELECTION CONTINUED

Botanical name	Common name: English	Common name: Afrikaans	Polyphagous shot hole borer (PSHB) (October 2022)	Indigenous	Drought tolerance	Suitable for pavements (narrow, smaller spaces)	Suitable for city centre/parking areas (non-invasive roots and smaller)	Size	Coastal areas	Sandy soils	Clay soils	Windy areas	Wind breaks	Screening	Birds/bees/butterflies	Scented trees	Fast-growing
			RH = reproductive host: avoid planting H = host: plant with care U = unknown: plant with care	Y = yes N = no	H = high M = medium L = low	Y = yes N = no	Y = yes N = no	S = <3 m M = 3-5 m L = +7 m								Produces nectar, pollen, fruit	
<i>Erythrina caffra</i>	Coast coral tree	Kuskoraalboom	RH	Y	M/H	N	N	M	Y	Y					Y		
<i>Ficus natalensis</i>	Natal wild fig	Natal wildevy	H	Y	H	N	N	L	Y	Y	Y	Y		Y			Y
<i>Ficus rubiginosa</i>	Port Jackson fig	Port Jackson-vy	U	N	H	N	N	L		Y					Y		Y
<i>Ficus sur</i>	Cape fig	Kaapse wildevy	H	Y	M	N (fruit)	N (fruit)	L							Y		
<i>Gardenia thunbergia</i>	Wild gardenia	Buffelsbal	U	Y	M	Y	Y	M			Y				Y	Y	
<i>Ginkgo biloba (male only)</i>	Maidenhair tree	Ginko	U	N	M	N	N	M			Y						
<i>Harpephyllum caffrum</i>	Sour plum	Suurpruim	H	Y	M/H	N	N	L	Y	Y					Y		
<i>Ilex mitis</i>	Wild/Cape holly	Without	H	Y	M	Y	Y	M			Y				Y		
<i>Jacaranda mimosifolia</i>	Jacaranda	Jakaranda	H	N	M	Y	Y	M		Y	Y	Y		Y	Y	Y	
<i>Kigelia africana</i>	Sausage tree	Worsboom	U	Y	H	N	N	M			Y				Y		
<i>Kiggelaria africana</i>	Wild peach	Wildeperske	RH	Y	M/H	Y	N	L	Y	Y	Y	Y	Y	Y	Y		Y
<i>Lagerstroemia indica and cultivars</i>	Pride of India	Skubliesroos	U	N	M	Y	Y	S/M		Y	Y				Y		
<i>Laurus nobilis</i>	Bay laurel	Lourierboom	U	N	M	N	Y	M	Y		Y			Y		Y	
<i>Liquidambar styraciflua</i>	Sweetgum	Amberboom	RH	N	L/M	N	N	M			Y						
<i>Lophostemon confertus (Tristania conferta)</i>	Australian box	Australiese buksboom	U	N	M	Y	Y	M	Y	Y	Y	Y	Y	Y			
<i>Loxostylis alata</i>	Tarwood	Tierhout	RH	Y	M	Y	Y	M	Y	Y	Y	Y	Y	Y			
<i>Macadamia integrifolia</i>	Macadamia	Makadamia	U	N	M	N	Y	M		Y	Y				Y		
<i>Melaleuca spp.</i>	Honey-mirtle	Mirt	U	N	M	N	Y	M	Y	Y	Y	Y	Y	Y	Y		
<i>Metrosideros excelsa</i>	New Zealand Christmas tree	Nieu-Seelandse perdestert	U	N	M	N	Y	M	Y	Y	Y	Y	Y	Y	Y		
<i>Nuxia floribunda</i>	Forest elder	Bosvlier	H	Y	M	N	Y	M			Y			Y	Y		
<i>Ocotea bullata</i>	Stinkwood	Stinkhout	U	Y	M	Y	Y	M			Y				Y		
<i>Olea africana</i>	Wild olive	Olienhout	H	Y	H	Y	Y	M	Y			Y	Y	Y	Y		Y
<i>Olinia ventosa</i>	Hard pear	Hardepeer	H	Y	M	Y	Y	M			Y			Y	Y		
<i>Persea americana</i>	Avocado	Avokado	RH	N	L/M	Y	N	M							Y		
<i>Phoenix canariensis</i>	Canary Island date palm	Kanariese dadelboom	U	N	H	Y	Y	M	Y		Y				Y		
<i>Phoenix reclinata</i>	Wild date palm	Wilde dadelpalm	U	Y	M	N	N	M	Y		Y	Y			Y		
<i>Pinus halepensis</i>	Allepo pine	Allepo-den	U	N	M	N	Y	M	Y	Y	Y	Y	Y	Y		Y	Y
<i>Pinus pinea</i>	Stone pine	Kroonden	U	N	M	N	N	L	Y	Y	Y	Y	Y	Y		Y	Y
<i>Pittosporum viridiflorum</i>	Cheesewood	Kasuur	U	Y	M	Y	Y	M			Y				Y	Y	
<i>Platanus spp.</i>	London plane	Plataan	RH	N	M/H	N	N	L			Y						Y
<i>Podocarpus elongatus</i>	Breede River yellowwood	Breederivier-geelhout	H	Y	M	Y	Y	L		Y	Y				Y		
<i>Podocarpus henkelii</i>	Henkel's yellowwood	Henkel se geelhout	H	Y	L/M	Y	Y	L			Y				Y		
<i>Podocarpus latifolius</i>	Real yellowwood	Kaapse geelhout	U	Y	L/M	Y	Y	L			Y				Y		
<i>Portulacaria afra</i>	Elephant's food	Spekboom	U	Y	H	N	N	S		Y	Y			Y	Y		Y
<i>Prunus africana</i>	Red stinkwood	Rooistinkhout	H	Y	M	Y	Y	M			Y				Y		
<i>Prunus amygdalus</i>	Almond	Amandel	U	N	M	Y	Y	M			Y				Y		
<i>Prunus cerasifera</i>	Cherry plum	Perspruim	H	N	M	Y	Y	M			Y				Y		

 Trees known to be subject to bark stripping

ANNEXURE D

GUIDELINES FOR TREE SPECIES SELECTION CONTINUED

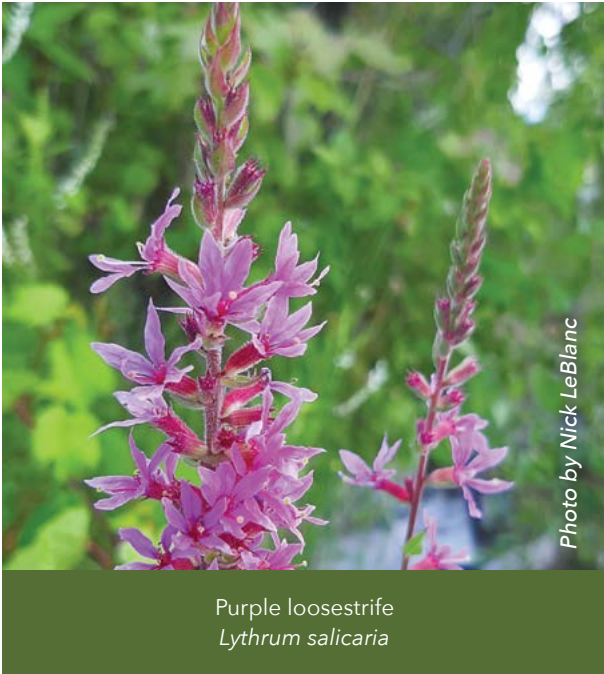
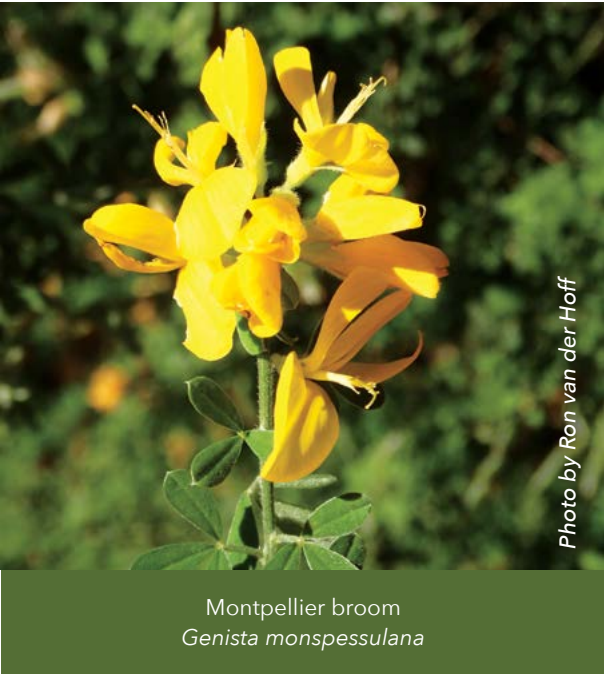
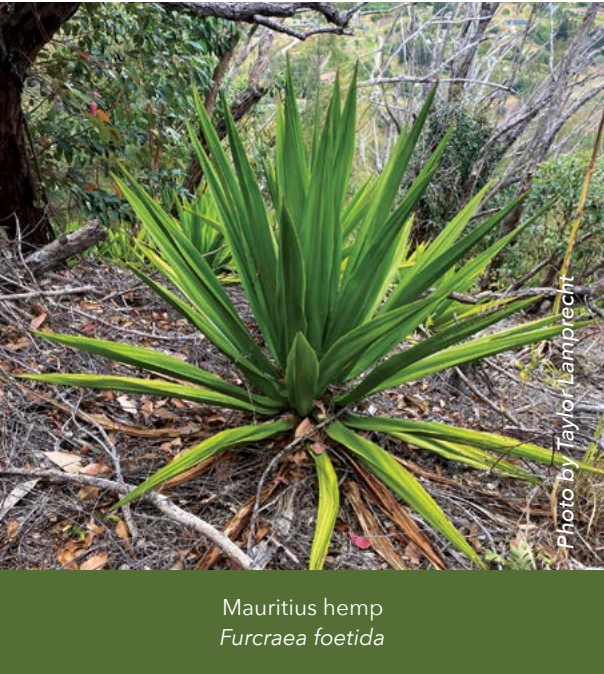
Botanical name	Common name: English	Common name: Afrikaans	Polyphagous shot hole borer (PSHB) (October 2022)	Indigenous	Drought tolerance	Suitable for pavements (narrow, smaller spaces)	Suitable for city centre/parking areas (non-invasive roots and smaller)	Size	Coastal areas	Sandy soils	Clay soils	Windy areas	Wind breaks	Screening	Birds/bees/butterflies	Scented trees	Fast-growing
			RH = reproductive host: avoid planting H = host: plant with care U = unknown: plant with care	Y = yes N = no	H = high M = medium L = low	Y = yes N = no	Y = yes N = no	S = <3 m M = 3-5 m L = +7 m									Produces nectar, pollen, fruit
<i>Pterocelastrus tricuspidatus</i>	Candlewood	Kershout	U	Y	M	Y	Y	M	Y		Y					Y	
<i>Punica granatum</i>	Pomegranate	Granaat	U	N	M	Y	N	M			Y				Y		
<i>Quercus cerris</i>	Turkey oak	Turkse eik	U	N	M	N	N	M	N	Y	Y	N		Y			
<i>Quercus ilex</i>	Holly oak	Hulseik	U	N	H	Y	Y	M			Y						
<i>Quercus nigra</i>	Water oak	Watereik	U	N	M	N	N	L			Y			Y			Y
<i>Quercus palustris</i>	Pin oak	Moeraseik	RH	N	M/H	N	Y	L			Y						Y
<i>Quercus suber</i>	Cork oak	Kurkeik	RH	N	M/H	Y	Y	L			Y	Y					
<i>Rapanea melanophloeos</i>	Cape beech	Boekenhout	H	Y	L/M	Y	N	M			Y				Y		
<i>Rauvolfia caffra</i>	Quinine tree	Kinaboom	U	Y	M	Y	Y	M/L			Y				Y		Y
<i>Schotia afra</i>	Karoo boer-bean	Karooboerboon	U	Y	H	Y	Y	M/L	Y	Y	Y	Y		Y	Y		
<i>Schotia brachypetala</i>	Weeping boer-bean	Huilboerboon	H	Y	M/H	N	N	M		Y	Y	Y			Y		
<i>Searsia chirindensis</i>	Red currant	Bostaaibos	H	Y	M	Y	N	M			Y	Y					Y
<i>Searsia lancea</i>	Black karee	Swartkaree	H	Y	H	N	N	M		Y		Y	Y	Y			Y
<i>Searsia pendulina</i>	White karee	Witkaree	U	Y	M/H	Y	N	M	Y	Y	Y	Y	Y	Y	Y		Y
<i>Senegalia galpinii</i>	Monkey thorn	Apiesdoring	H	Y	M/H	N	N	M		Y	Y				Y	Y	
<i>Sideroxylon inerme</i>	Milkwood	Melkhout	U	Y	H	Y	Y	L	Y	Y	Y	Y	Y	Y	Y		
<i>Strelitzia nicolai</i>	Natal wild banana	Wildepiesang	U	Y	M/H	N	N	M	Y	Y		Y			Y		
<i>Syagrus romanzoffiana</i>	Queen palm	Koninginpalm	U	N	M	Y	Y	M	Y								
<i>Syncarpia glomulifera</i>	Turpentine tree	Terpentynboom	U	N	M/H	Y	Y	M	Y	Y	Y	Y					
<i>Syzygium cordatum</i>	Waterberry	Waterbessie	H	N	M/H	Y	N	M	Y	Y			Y	Y	Y		
<i>Syzygium guineense</i>	Water pear	Waterpeer	U	N	M/H	Y	Y	M						Y	Y		Y
<i>Tarchonanthus camphoratus</i>	Camphor bush	Kamferbos	U	Y	H	N	N	M	Y	Y		Y	Y	Y	Y		Y
<i>Tipuana tipu</i>	Tipuana	Tipuana	U	N	M	N	N	L		Y	Y						Y
<i>Trichilia emetica</i>	Natal mahogany	Rooi-essenhout	RH	Y	M	N	Y	L			Y				Y		
<i>Tristaniaopsis (Tristania) laurina</i>	Watergum	Kanooka	U	N	M	Y	Y	M	Y	Y	Y	Y	Y	Y			
<i>Ulmus parvifolia</i>	Chinese elm	Fynblaarolm	RH	N	M	N	N	L			Y						Y
<i>Vachellia karroo</i>	Sweet thorn	Soetdoring	H	Y	H	N	Y	L	Y	Y	Y	Y		Y	Y	Y	Y
<i>Vachellia sieberiana</i>	Paperbark	Papierbas	H	Y	M	N	N	M		Y	Y				Y	Y	Y
<i>Vachellia xanthophloea</i>	Fever tree	Koorsboom	U	Y	M/H	N	Y	L							Y		Y
<i>Vepris lanceolata</i>	White ironwood	Witysterhout	RH	Y	M	Y	Y	M			Y				Y		
<i>Viburnum spp.</i>	Viburnum	Viburnum	H	N	M	Y	Y	S			Y				Y		Y
<i>Virgilia oroboides</i>	Blossom tree	Keurboom	RH	Y	M	N	N	M	Y	Y	Y	Y	Y	Y	Y	Y	Y
<i>Washingtonia robusta</i>	Fan palm	Waaierpalm	U	N	M/H	Y	Y	M	Y	Y		Y					Y

 Trees known to be subject to bark stripping

ANNEXURE E

EARLY DETECTION AND RAPID RESPONSE (EDDR) TARGET SPECIES

Cape Town’s EDRR programme identified 25 target plant species that could become invasive. The following six are of key concern for management action. Source: https://resource.capetown.gov.za/documentcentre/Documents/Procedures,%20guidelines%20and%20regulations/Invasive_plants_Identikit.pdf, March 2021.



ANNEXURE F

WATER-WISE PLANTS FOR THE WESTERN CAPE

The plants listed below are some of the indigenous water-wise plants that you may want to introduce in your garden. Although only a few succulents are listed, any succulent is generally regarded as water-wise.

Growth form	Scientific name	Common name*	Height	Spread
Bulbs	<i>Agapanthus praecox</i>	Agapanthus	up to 1,5 m	70 cm
	<i>Amaryllis belladonna</i>	March lily	50 cm	50 cm
	<i>Chasmanthe floribunda</i>	Cobra lily	1 m	30 cm
	<i>Clivia miniata</i>	Bush lily	75 cm	75 cm
	<i>Dietes grandiflora</i>	Wild iris	1 m	1 m
	<i>Freesia alba</i>	White freesia	20 cm	15 cm
	<i>Tulbaghia violacea</i>	Wild garlic	40 cm	25 cm
	<i>Watsonia borbonica</i>	Watsonia	up to 1,5 m	30 cm
	<i>Anchusa capensis</i>	Cape forget-me-not	60 cm	30 cm
	<i>Arctotis stoechadifolia</i>	African daisy	15 cm	40 cm
Herbaceous perennials	<i>Asparagus densiflorus 'Meyersii'</i>	Cat's tail asparagus	30 cm	30 cm
	<i>Felicia aethiopica</i>	Dwarf felicia	30 cm	30 cm
	<i>Felicia echinata</i>	Dune daisy	30 cm	30 cm
	<i>Gazania krebsiana</i>	Terracotta gazania	25 cm	30 cm
	<i>Gazania rigens var uniflora</i>	Treasure flower	15 cm	30 cm
	<i>Geranium incanum</i>	Carpet geranium	30 cm	30 cm
	<i>Helichrysum cymosum</i>	Golden carpet	10 cm	30 cm
	<i>Helichrysum petiolare</i>	Liquorice plant	1 m	1,5 m
	<i>Leonotis leonurus</i>	Wild dagga	up to 2 m	60 cm
	<i>Pelargonium capitatum</i>	Rose-scented pelargonium	30 cm	60 cm
Shrubs	<i>Pelargonium cucullatum</i>	Wild malva	1 m	60 cm
	<i>Pelargonium peltatum</i>	Ivy-leaved geranium	30 cm	60 cm
	<i>Plectranthus neochilus</i>	Spur flower	30 cm	60 cm
	<i>Scabiosa africana</i>	Pincushion	60 cm	60 cm
	<i>Sutera cordata</i>	Sutera	15 cm	15 cm
	<i>Agathosma ovata 'Kluitjieskraal'</i>	False buchu	60 cm	60 cm
	<i>Agathosma glabrata</i>	Buchu	1 m	50 cm
	<i>Anisodonte scabrosa</i>	Pink mallow	1 m	1 m
	<i>Barleria obtusa</i>	Bush violet	1,5 m	1 m
	<i>Bauhinia galpinii</i>	Pride-of-de-Kaap	3 m	4 m
Shrubs	<i>Buddleja auriculata</i>	Weeping sage	4 m	4 m
	<i>Carissa macrocarpa</i>	Num-num	3 m	2 m
	<i>Coleonema album</i>	Confetti bush	1 m	75 cm
	<i>Dovyalis caffra</i>	Kei apple	4 m	3 m
	<i>Elegia tectorum</i>	Cape thatching reed	1 m	1 m
	<i>Erica baccans</i>	Berry heath	1 m	60 cm
	<i>Erica cerinthoides</i>	Fire heath	30 cm	20 cm

Growth form	Scientific name	Common name*	Height	Spread
Shrubs	<i>Erica mammosa</i>	Nine-pin heath	1,5 m	1 m
	<i>Eriocephalus africanus</i>	Wild rosemary	1 m	1 m
	<i>Euryops pectinatus</i>	Golden daisy bush	1m	1 m
	<i>Euryops speciosissimus</i>	Giant resin bush	1,5 m	1 m
	<i>Felicia filifolia</i>	Fine leafed felicia	1 m	1 m
	<i>Leucadendron salignum</i>	Common sunshine conebush	1,5 m	1,5 m
	<i>Leucospermum cordifolium</i>	Ornamental pincushion	1,5 m	2 m
	<i>Metalasia muricata</i>	White bristle bush	1,5 m	1 m
	<i>Plumbago auriculata</i>	Cape plumbago	3 m	3 m
	<i>Protea repens</i>	Common sugarbush	3 m	3 m
Trees	<i>Salvia africana-lutea</i>	Wild sage	1,8 m	1,8 m
	<i>Searsia crenata</i>	Dune crowberry	3 m	6 m
	<i>Strelitzia juncea</i>	Crane flower	1,5 m	1,5 m
	<i>Tecomaria capensis</i>	Cape honeysuckle	3 m	3 m
	<i>Acacia karroo</i>	Sweet thorn	8 m	8 m
	<i>Brachyleana discolor</i>	Coast silver oak	7 m	10 m
	<i>Cussonia paniculata</i>	Highveld cabbage tree	5 m	2 m
	<i>Dais cotinifolia</i>	Pompom tree	5 m	3 m
	<i>Diospyros whyteana</i>	Bladder nut	5 m	3 m
	<i>Encephalaros altensteinii</i>	Eastern cape cycad	1,5 m	1,5 m
Succulents	<i>Erythrina lysistemon</i>	Common coral tree	10 m	6 m
	<i>Olea europaea subs. Africana</i>	Wild olive	8 m	6 m
	<i>Rhus (Searsia) lancea</i>	Karee	7 m	7 m
	<i>Aloe ferox</i>	Bitter aloe	up to 3 m	1 m
	<i>Bulbine frutescens</i>	Snake flower	30 cm	40 cm
	<i>Carpobrotus acinaciformis</i>	Sour fig	15 cm	1 m
	<i>Cotyledon orbiculata</i>	Pig's ear	1 m	50 cm
	<i>Crassula coccinea</i>	Red crassula	60 cm	40 cm
	<i>Crassula multica</i>	Fairy crassula	20 cm	30 cm
	<i>Podranea ricasoliana</i>	Port St John's creeper	6 m	4 m
Climbers	<i>Senecio tamoides</i>	Canary creeper	5 m	3 m
	<i>Thunbergia alata</i>	Black-eyed susan	3 m	1,5 m
	<i>Dimorphotheca pluvialis</i>	Witmagriet	30 cm	30 cm
	<i>Dorotheanthus bellidiformis</i>	Bokbaivygjie	10 cm	25 cm
	<i>Nemesia strumosa</i>	Cape jewels	30 cm	30 cm
	<i>Senecio elegans</i>	Wild cineraria	60 cm	30 cm
	<i>Ursinia cakilefolia</i>	Bergmagriet	30 cm	30 cm
Annuals				

* There can be various common names for the same species.
Source: National Botanical Institute, "Water-wise plants for the Western Cape", undated pamphlet.

ANNEXURE G

LIST OF ‘FIRESCAPING’ PLANTS

The following tables contain some suitable species for firescaping a property, listed by zone.

BUFFER ZONE

	Scientific name	Common name
Lawn grass	<i>Stenotaphrum secundatum</i>	Buffalo grass
Groundcovers	<i>Aloe brevifolia</i>	Short-leaved aloe
	<i>Arctotis stoechadifolia</i>	African daisy
	<i>Carpobrotus spp.</i>	Sour figs
	<i>Cliffortia ferruginea</i>	Glossy cliffortia
	<i>Delosperma spp.</i>	Ice plants
	<i>Drosanthemum spp.</i>	Dew flowers
	<i>Gazania spp.</i>	Gazanias
	<i>Lampranthus spp.</i>	Dew plants
	<i>Malephora spp.</i>	Mesembs
Bulbs	<i>Agapanthus praecox</i>	Agapanthus
	<i>Tulbaghia violacea</i>	Wild garlic
Hedge plants	<i>Carissa macrocarpa</i>	Num-num
	<i>Osteospermum moniliferum</i>	Bietou/tickberry
	<i>Pterocelastrus tricuspidatus</i>	Candlewood
	<i>Searsia crenata</i>	Dune crowberry
	<i>Searsia glauca</i>	Blue kuni-rhus
	<i>Searsia lucida</i>	Varnished kuni-rhus/glossy current
	<i>Tarchonanthus camphoratus</i>	Camphor bush

MEDIUM-RESISTANCE ZONE

	Scientific name	Common name
Re-sprouters	<i>Brachylaena discolor</i>	Coast silver oak
	<i>Elegia tectorum</i>	Thatching reed
	<i>Felicia echinata</i>	Dune daisy
	<i>Kiggelaria africana</i>	Wild peach
	<i>Leucadendron salignum</i>	Common sunshine conebrush
	<i>Maytenus oleoides</i>	Mountain maytenus
	<i>Olea europaea subsp. africana</i>	Wild olive
	<i>Pelargonium cucullatum</i>	Wild malva
	<i>Protea cynaroides</i>	King protea
	<i>Salvia spp.</i>	Wild sage
	<i>Searsia lucida</i>	Varnished kuni-rhus/glossy current

MEDIUM-RESISTANCE ZONE CONTINUED

	Scientific name	Common name
Plants with corky bark	<i>Kumara plicatilis</i>	Fan aloe
	<i>Leucospermum conocarpodendron</i>	Grey tree pincushion
	<i>Mimetes cucullatus</i>	Common pagoda
	<i>Protea nitida</i>	Waboom
Forest trees	<i>Afrocanthium gilfillanii</i> (used to be <i>Canthium mundianum</i>)	Klipels/rock-alder
	<i>Brabejum stellatifolium</i>	Bitter almond
	<i>Cunonia capensis</i>	Rooiels
	<i>Halleria lucida</i>	Tree fuchsia
	<i>Ilex mitis</i>	Cape holly
	<i>Rapanea melanophloeos</i>	Cape beech
Bulbs	<i>Agapanthus spp.</i>	Agapanthus/lily of the Nile
	<i>Cyrtanthus ventricosus</i>	Fire lily
	<i>Haemanthus coccineus</i>	Paintbrush lily
	<i>Kniphofia spp.</i>	Red hot poker
	<i>Watsonia spp.</i>	Bugle lily
Re-seeding species	<i>Agathosma spp.</i>	Buchus
	<i>Erica spp.</i>	Heaths
	<i>Felicia aethiopica</i>	Wild aster
	<i>Helichrysum spp.</i>	Everlastings
	<i>Leucadendron salignum</i>	Ornamental pincushion
	<i>Metalasia muricata</i>	White bristle bush
	<i>Pelargonium cordifolium</i>	Heart-leaved pelargonium
	<i>Phylica spp.</i>	Heath phylica
	<i>Protea spp.</i>	Sugarbush
	<i>Roella spp.</i>	Roella
	<i>Selago spp.</i>	Bitterbush
	<i>Ursinia cakilefolia</i>	Bergmagriet

ANNEXURE G

LIST OF ‘FIRESCAPING’ PLANTS

CONTINUED

LOW-RESISTANCE ZONE

	Scientific name	Common name
Groundcovers		
	For sunny areas	
	<i>Agathosma ovata</i> ‘Kluitjieskraal’	False buchu
	<i>Carpobrotus acinaciformis</i>	Sour fig
	<i>Cliffortia ferruginea</i>	Glossy cliffortia
	<i>Cotula lineariloba</i>	Big yellow moon
	<i>Delosperma</i> spp.	Trailing iceplant
	<i>Drosanthemum</i> spp.	Dewflowers
	<i>Dymondia margaretae</i>	Silver carpet
	<i>Gazania</i> spp.	Treasure flower
	<i>Helichrysum argyrophyllum</i>	Golden guinea everlasting
	<i>Hermannia saccifera</i>	Cumin hermannia
	<i>Lampranthus</i> spp.	Shining flowers
	<i>Malephora</i> spp.	Coppery mesemb
	<i>Otholobium decumbens</i>	Carpet pea
	<i>Plectranthus neochilus</i>	Lobster flower
	For shady areas	
	<i>Plectranthus ciliatus</i>	Speckled spurflower
	<i>Plectranthus neochilus</i>	Lobster flower
	<i>Plectranthus verticillatus</i>	Swedish ivy
Shrubs	<i>Agathosma serpyllacea</i>	Thyme buchu
	<i>Athanasia dentata</i>	Geelblombos
	<i>Felicia</i> spp.	Blue daisy
	<i>Carissa macrocarpa</i>	Num-num
	<i>Cotyledon orbiculata</i>	Pig’s ear
	<i>Scabiosa</i> spp.	Pincushion flowers

Source: FireWiseSA (ed), “Firescaping in the Fynbos” and “Firescaping your Garden”, 2001.

ANNEXURE H

COMMUNITY AND OTHER

RELEVANT ORGANISATIONS

The following table lists some of the organisations and community groups who are active in promoting, maintaining and enhancing Cape Town’s urban green fabric. Your local subcouncil office should also have a list of organisations active in your area.

Organisation	Social media pages	Website
Abalimi Bezekhaya	https://www.facebook.com/abalimi.bezekhaya.ct/	https://abalimibezekhaya.org.za/
BirdLife South Africa		https://www.birdlife.org.za/
Botanical Society of South Africa	https://www.facebook.com/BotSocSA/	https://botanicalsociety.org.za/
Cape Bird Club		https://www.capebirdclub.org.za/
Communitree	https://www.facebook.com/CommunitreeSA/	https://communitree.in/
CREW (Custodians of Rare and Endangered Wildflowers)	https://www.facebook.com/CREWCitSciZA	https://www.sanbi.org/biodiversity/building-knowledge/biodiversity-monitoring-assessment/custodians-of-rare-and-endangered-wildflowers-crew-programme/
Friends of Arderne Gardens	https://www.facebook.com/ardernegardens/	https://www.ardernegardens.org.za/fotag
Friends of Blaauwberg Conservation Area (BCA)	https://m.facebook.com/Friends-of-Blaauwberg-Conservation-Area-1615847141966867/	https://www.bca.org.za/
Friends of Bracken Nature Reserve	https://www.facebook.com/FoB.Nature/	
Friends of the Choo Choo Park	https://www.facebook.com/pages/category/Community/The-Friends-Of-The-Choo-Choo-Park-838706899524656/	
Friends of Constantia Valley Greenbelts	https://www.facebook.com/FoCVGB/	https://crra.co.za/friends-of-constantia-valley-greenbelts/
Friends of De Waal Park	https://www.facebook.com/groups/196515100398590	https://dewaalpark.co.za/
Friends of Die Oog	https://www.facebook.com/friendsofdieoog/	https://dieoog.org.za/
Friends of Elizabeth Park	https://www.instagram.com/friends_of_elizabeth_park/ https://www.facebook.com/elizabethparkbellville	https://gtp.org.za/elizabeth-park-and-tielman-marais-park/
Friends of Harfield Village Parks	https://m.facebook.com/Friends-of-Harfield-Village-Parks-234963509962825/?ref=page_internal&mt_nav=0	https://harfield-village.co.za/business/friends-of-harfield-village-parks/
Friends of Helderberg Nature Reserve	https://www.facebook.com/helderbergnaturereserve/	https://helderbergnaturereserve.co.za/
Friends of Homestead Park Oranjezicht	https://www.facebook.com/HomesteadParkOranjezicht/	

ANNEXURE H

COMMUNITY AND OTHER RELEVANT ORGANISATIONS

CONTINUED

Organisation	Social media pages	Website
Friends of Jack Muller Park	https://www.facebook.com/Friends-of-Jack-Muller-Park-989709164378883/	
Friends of Kenilworth Racecourse Conservation Area	https://www.facebook.com/KenilworthRacecourseConservationArea/ https://www.instagram.com/krca_za/	
Friends of Kenwyn Nature Park	https://www.facebook.com/KenwynNatureReserve/	
Friends of Keurboom Park	https://m.facebook.com/profile.php?id=145133575566891&__tn__=C-R	http://keurboompark.org.za/
Friends of Kirstenhof Wetlands	https://www.facebook.com/Friends-of-Kirstenhof-Wetland-FKW-1385576761762942/	
Friends of Lion's Head and Signal Hill	https://www.facebook.com/FriendsofLionsHead/ https://www.instagram.com/friendsoflionshead/	
Friends of Meadowridge Common	https://www.instagram.com/meadowridge_common/?hl=en	http://meadowridgecommon.blogspot.com/p/join-friends.html
Friends of Muizenberg Park	https://www.facebook.com/friendsofmuizenbergpark/ https://www.instagram.com/muizenbergpark/	http://www.muizenbergpark.org.za/Home/
Friends of Paradise Park	https://www.facebook.com/newlandsresidentsassociation/?fref=ts	https://newlandsresidents.org.za/community/friends-of-paradise-park/
Friends of Rietvlei	https://www.facebook.com/friendsofrietvlei/	https://friendsofrietvlei.co.za/
Friends of Rondebosch Common	https://www.facebook.com/groups/Friends.of.Rondebosch.Common/ https://www.instagram.com/rondeboschcommonfriends/	https://www.rondeboschcommon.org.za/
Friends of Silvermine Nature Area (FOSNA)	https://www.facebook.com/groups/387078555109665/about	https://izele.org/455/friends-of-silvermine-nature-area-riverine-rovers/
Friends of the Liesbeek	https://www.facebook.com/groups/friendsoftheliesbeek https://www.instagram.com/friendsof_theliesbeek/	https://fol.org.za/
Friends of the Rivers of Hout Bay	https://www.facebook.com/forhb/	http://friendsoftheriversofhoutbay.co.za/
Friends of the Rosebank and Mowbray Greenbelt		https://communitree.in/organisations/1
Friends of Table Mountain	https://www.facebook.com/groups/thefriendsoftablemountain/	https://www.friendsoftablemountain.org/
Friends of Tokai Park	https://www.facebook.com/FriendsOfTokaiPark/	https://tokaipark.com/
Friends of Trafalgar Park	https://www.facebook.com/FriendsofTrafalgarPark/	

Organisation	Social media pages	Website
Friends of Tygerberg Nature Reserve	https://www.facebook.com/Friends-of-Tygerberg-Nature-Reserve-1062006647150490/	
Friends of Upper Liesbeek River Garden	https://www.facebook.com/Upper-Liesbeek-River-Garden-644644978943338/	
Friends of Van Riebeeck Park	https://www.facebook.com/VanRiebeeckPark/	
Friends of Wynberg Park	https://www.facebook.com/FriendsOfWynbergPark/	
Friends of Zeekoevlei and Rondevlei	https://www.facebook.com/Friendsofzeekoevlei/	https://www.zeekoevlei.co.za/friends-of-zeekoevlei-rondevlei/
FynbosLIFE	https://www.facebook.com/fynboslife/ https://www.instagram.com/fynboslife/	https://www.fynboslife.com/
Glencairn Education & Environmental Support Enthusiasts (GESE)	https://www.facebook.com/Geese-Glencairn-150012798398311/	https://www.geeseglencairn.org
Greenpop	https://www.facebook.com/Greenpop https://www.instagram.com/greenpopsa/	https://greenpop.org/
Ingcungcu	https://www.facebook.com/IngcungcuSunbirdRestoration/	https://ingcungcu.org/
Kommetjie Environmental Action Group	https://www.facebook.com/Kommetjie-Environmental-Awareness-Group-294871193931475/	
Lourens River Conservation Society	https://www.facebook.com/LourensRiverConservationSociety/	
Mosselbank River Conservation Team	https://www.facebook.com/people/Mosselbank-River-Conservation-Team/100064378314522/?fref=tag https://www.instagram.com/mosselbankconservationteam/?igshid=MzRIODBiNWFIZA%3D%3D	https://www.mosselbankriverconservationteam.com/
Newlands Residents Association • Papenboom Meadow	https://www.facebook.com/newlandsresidentsassociation/	https://newlandsresidents.org.za/environment/
Noordhoek Environmental Action Group	https://www.facebook.com/groups/noordhoeked/	https://neag.org.za/
Parkscape	https://www.facebook.com/ParkscapeSA/	

ANNEXURE H

COMMUNITY AND OTHER RELEVANT ORGANISATIONS

CONTINUED

Organisation	Social media pages	Website
Princess Vlei Forum	https://www.facebook.com/PrincessVleiForum/ https://www.instagram.com/princessvlei/	http://www.princessvlei.org/
Renew the Elsieskraal River Association	https://www.facebook.com/RenewElsieskraal/ https://www.instagram.com/renewtheelsieskraalriver/	https://www.renewelsieskraal.org.za/
Riverine Rovers (Lower Silvermine River Wetland)	https://www.facebook.com/groups/387078555109665/about	https://izele.org/455/friends-of-silvermine-nature-area-riverine-rovers/
Soil for Life	https://www.facebook.com/soilforlife/ https://www.instagram.com/soilforlife/	https://soilforlife.co.za/
South African National Biodiversity Institute (SANBI)	https://www.facebook.com/SouthAfricanNationalBiodiversityInstitute https://www.instagram.com/sanbi_zs/	https://www.sanbi.org/
Sun Valley Eco Watch	https://www.facebook.com/SunValleyEcoWatch/	
Table Mountain Honorary Rangers		https://www.sanparksvolunteers.org/contact-us/regional-contact-information/table-mountain-region/
TreeKeepers	https://www.facebook.com/TreekeepersCapeTown/	https://treekeeperscapetown.org.za/
Volunteer Wildfire Services (VWS)	https://www.facebook.com/VolunteerWildfireServices/	https://vws.org.za/
Wildlife and Environment Society of South Africa (Western Cape)	https://www.facebook.com/wessawc/	https://wessa.org.za/
Wildflower Stepping Stones Project	https://www.facebook.com/Wildflower-Stepping-Stones-Project-102376045319138/	
Zandvlei Trust	https://www.facebook.com/Zandvlei-Trust-178085508924234/	https://zandvleitrust.org.za/

ANNEXURE I

REFERENCES AND RESOURCES

WEBSITES

PLANTS
<http://pza.sanbi.org>
<https://www.theplantlibrary.co.za/western-capeplants>
<https://www.theindigenousgardener.co.za/>
<https://www.plantbook.co.za>
<https://plantinfo.co.za>
<https://www.fynboscorridors.org/species/10939/>

INVASIVE ALIEN SPECIES
www.capetowninvasives.org.za
<http://www.invasives.org.za/>
<https://www.capetown.gov.za/City-Connect/Activities-and-programmes/Nature-and-environment>

FIRE
<https://workingonfire.org/>
<http://www.firewise.org/>

PROTECTED AREAS
City of Cape Town nature reserves: www.capetown.gov.za/naturereserves
Table Mountain national park: https://www.sanparks.org/parks/table_mountain/
CapeNature: <https://www.capenature.co.za/>

GARDENING FOR BUTTERFLIES
<https://www.thegardener.co.za/the-gardener/pollinators/butterflies-in-your-garden>

GREEN BUILDING COUNCIL OF SOUTH AFRICA GREEN STAR CERTIFICATION
<https://www.gbcsa.org.za/why-certify/>

ANNEXURE I

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ANNEXURE I

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ANNEXURE J

LIST OF ABBREVIATIONS

BioNet	Biodiversity Network
CARA	Conservation of Agricultural Resources Act 43 of 1983
CBA	critical biodiversity area
CESA	critical ecological support area
CMS	construction method statement
CREW	Custodians of Rare and Endangered Wildflowers
DEA&DP	Department of Environmental Affairs and Development Planning (Province)
DFFE	Department of Forestry, Fisheries and the Environment (National)
DSDF-EMF	District Spatial Development Framework-Environmental Management Framework
EDRR	early detection and rapid response
EIA	environmental impact assessment
GI	green infrastructure
GINet	Green Infrastructure Network
GIP	Green Infrastructure Programme
IAPs	invasive alien plants
IAS	invasive alien species
ISU	Invasive Species Unit (City)
LBSAP	Local Biodiversity Strategy and Action Plan
LUW	Liveable Urban Waterways (programme)
MMP	maintenance management plan
MSDF	Municipal Spatial Development Framework
NEMA	National Environmental Management Act 107 of 1998
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NEMPAA	National Environmental Management: Protected Areas Act 57 of 2003
NMT	non-motorised transport
OEMP	operational environmental management plan
OESA	other ecological support area
PSHB	polyphagous shot hole borer (beetle)
SEMP	site environmental management plan
SUDS	sustainable urban drainage system
WSD	water-sensitive design
WSUD	water-sensitive urban design

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