



CITY OF
TSHWANE
IGNITING EXCELLENCE

Environment and Agriculture Management Department

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To: Property Developers
Property Development Forum
SACLAP
SACPLAN

GREEN ROOF DESIGN REQUIREMENTS FOR SITE AND LANDSCAPE DEVELOPMENT PLAN APPLICATIONS

The Environment and Agriculture Management Department (hereafter "the Department") reviews various land development applications within the City of Tshwane Metropolitan Municipality (hereafter "the City"). In residential developments, this is done to ensure compliance with the requirements for, amongst others, the;

- Development and maintenance of children's playgrounds in terms of Clause 14(3) of the City of Tshwane Town-Planning Scheme, 2008 (revised 2014); and
- Provision of open spaces and parks in terms of Section 47 of the City of Tshwane Land Use Management By-law, 2016.

The Department has recently received several applications wherein the developers requested to provide open spaces, parks or playgrounds as roof gardens on buildings. Apart from providing recreational space, intensive living green roof gardens can support a greater variety of plants and larger trees to contribute to urban greening, biodiversity and moderation of urban heat islands, stormwater management and water filtration, improved air quality, noise reduction and green building rating. The Department therefore has compiled green roof design requirements to guide the review of land development applications, including Site and Landscape Development Plan Applications.

Due to the complex technical, safety, and legal requirements and considerations of green roof systems, they should only be compiled by individuals registered in the category of Professional Landscape Architect and installed by landscapers registered as Professional Landscape Construction Managers with the South African Landscape Architectural Profession (SACLAP).

Developers and professionals in the built environment should note that the Department will not approve or issue a Landscape Development Plan (LDP) Compliance Certificate for work completed by anyone not registered in the above-mentioned categories. The professionals will be required to provide valid proof of professional registration with SACLAP.

The roof garden landscape architectural drawings should comply with the following requirements:

- Whereby the roof garden is used for the provisioning of a children's playground in terms of the requirements of the Scheme or for the purposes of aesthetics, design improvement or recreational spaces, at least 33% of the surface of the roof should be a living green roof.
- If the roof is used for the provisioning of open spaces and parks in terms of the LUM Bylaw requirements, at least 77% of the surface of the roof should be a living green roof.
- It must be an intensive living green roof type established with a 150mm or more soil layer (growing medium), indigenous vegetation and water features excluding pergolas and movable planter pots. Trees must be planted on a growing medium of at least 600mm depth.
- The Professional Landscape Architect must compile conceptual drawings (preferably 3D drawings) to be used for discussions on the above requirements with the Department before continuing with detailed plans and construction drawings.
- The LDP legend should give detailed architectural specifications (size, material, finish, colour) for hardscaping including paving, edging, planters, garden walls, garden structures and furniture. This includes seating, picnic sets (or built tables), braai facilities and pergolas. All materials and finishes for ball courts should also be specified.
- The LDP and 3D drawings must be supported with detailed construction drawings of the green roof showing:
 - The vegetative green roof components and materials including but not limited to waterproofing membrane, root barrier, insulation, drainage, flashing, filter fabric, growing medium, vegetation and irrigation (where applicable).
 - How it was designed to ensure the safety of the users should be submitted including construction details of the built braai facilities.
 - full architectural specifications of all hard landscaping, equipment and furniture proposed.
 - Construction drawings should show how the equipment and other furniture will be fixed to the roof slab.
 - Guardrails, protective barriers or fencing must be placed firmly on the edge of elevated areas, such as terraces, platforms, ramps etc. Glass balustrades are not recommended for roof gardens.

- All play/gym area equipment. It should be safe and suitable for their purpose and meet relevant standards including compliance with SANS 51176:2010 for play equipment and surfaces.
- Play structures that are more than 750 mm high should be placed at least 2.5 meters apart; Where reasonably practical, swings, seesaws and other equipment with moving parts should be placed in areas separated from the rest of the playground.
- All ball courts should be safe, have perimeter netting suitable for their purpose and meet relevant standards and legislation.
- Entrances to roof gardens must have self-closing and locking gates.
- All drainage must comply with the relevant standards and legislation.
- Pools and other water features on roof gardens must comply with the relevant standards and legislation.

In addition, Professional Landscape Architect should ensure that the drawings mentioned herein are:

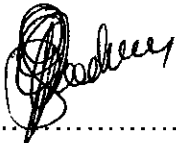
- Approved by a Professional Architect and Professional Structural/Civil Engineer registered with their respective Professional Councils confirming that the:
 - design of the roof garden is based on the latest architectural and engineering drawings;
 - Building's structural characteristics and site conditions are appropriate for green roof installation. The structural load bearing capacity should allow for the proposed public access volume; growing medium type, depth and weight; function and type of green roof (intensive or extensive); replacement and repair strategies; plant selection, height and weight at maturity; irrigation, drainage and waterproofing.
 - Roof garden is designed specifically for daily use and high traffic volumes of visitors and users meet safety standards and requirements from applicable legislation, policies and guidelines e.g., National Building Regulations and Building Standards Act 103 of 1977, Occupational Health and Safety Act 85 of 1993, etc.
- Approved by Developer confirming that there is sufficient budget to implement the approved drawings before the City can issue the LDP Compliance Certificate and Occupation Certificate. It is the responsibility of the Developer to ensure that the application and the implemented roof garden adhere to all Local, Provincial and National Government guidelines, policies, regulations and/or legislation.
- Compliant with all other development application requirements of the Department and the City.

The Professional Landscape Architect and the Professional Landscape Construction Managers will have to certify that the work has been implemented according to the approved plans and construction drawings before they can invite the department to the site for inspection and possible issuance of the LDP Compliance Certificate.

It is therefore recommended that a Professional Landscape Architect be appointed for all project stages, from initiation to completion, to ensure compliance with all LDP requirements.

For more information related to green roofs and LDP applications, please feel free to contact Mr Ofentse Mothowamodimo at 012 358 3152 or willieom@tshwane.gov.za.

Kind regards,



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Mr. Abel Malaka

GROUP HEAD: ENVIRONMENT AND AGRICULTURE MANAGEMENT

27/06/23

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Date