



public works
& infrastructure

Department:
Public Works and Infrastructure
REPUBLIC OF SOUTH AFRICA

TERMS OF REFERENCE

***APPOINTMENT OF SERVICE PROVIDERS TO UNDERTAKE
INSTALLATION OF BIODIVERSITY VERTICAL AND HORIZONTAL
GARDEN: DURBAN.***

AUGUST 2023



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ABBREVIATIONS

| | | |
|------|---|--|
| DPWI | - | Department of Public Works and Infrastructure |
| SP | - | Service Provider |
| OHS | - | Occupational Health and Safety |
| ISO | - | International Organization for Standardisation |

1. BACKGROUND

1.1 Buildings and structures form and alter the nature, function, and appearance of the natural and built environment. Many of the buildings still in use are decades years old and are responsible for much of the energy consumption, water consumption, and waste generates more than any other industrial sector. Through the Public Works Green Building Policy, strive for environmental sustainability by retrofitting existing buildings with bio-diverse elements to enhance the state and comfort of inhabitants.

Indoor air quality is a vital element for the continued occupation of buildings by people. Hence, DPWI ventures to incorporate biodiversity and indigenous flora within its buildings to improve living space, indoor health quality, and intrinsic value associated with natural green space. The Biodiversity project seeks to restore the artistic component of having gardens within our immovable assets.

The added benefit of gardens within DPWI's immovable assets reduces the potential of developing air quality-related health issues derived from inadequate indoor quality. Indoor air pollution can have an immediate negative impact on human capital productivity and focus occupants. Air pollutants may accumulate to levels that pose health and comfort issues if insufficient outdoor air is allowed inside.

2. OBJECTIVES

2.1 The objective of the Biodiversity project: Vertical and Horizontal gardens is to:

2.1.1. Improve the office environment by reducing carbon dioxide, regulating the humidity, and the improved indoor air quality.

2.1.2. Improvement and regulation of the indoor temperature, resulting in the reduction of energy consumption during warmer/hotter months.

2.1.3. The utilisation of harvested water for irrigation and plants that utilise minimal water.

2.1.4. The appointment of an appropriate service provider with the appropriate industry experience and qualification to undertake the installation of Vertical and Horizontal gardens;

2.1.5. The service provider should be operating/conducting business within the specified region.

3. SCOPE OF WORK

3.1. Service providers are required to conduct an installation of Vertical and Horizontal Gardens, and pre and post-air quality assessment. The focus area for the Biodiversity project: Vertical and Horizontal Garden installation is the following facility listed below:

Table 1:List of buildings for Biodiversity Vertical and Horizontal Gardening Installation

| Site | Facility Name |
|------|---|
| 1 | SAPS Academy,241 Moorton Dr, Risecliff, Chatsworth, Durban, 4092 |

3.2. The Department of Public Works and Infrastructure (DPWI) reserves the right to identify other buildings/facilities where Biodiversity Vertical and Horizontal Gardening may be installed;

3.3. To this effect, the DPWI would like to request service providers to submit a comprehensive quotation for the listed region in table 1.

3.3.1 The Service Provider must provide a preliminary site investigation report and project manage the installation of the Vertical and Horizontal Garden The preliminary report must include:

- A structural load assessment.
- Measure to prevent negative impact on DPWI in the specific region on their daily operations.
- Baseline air quality assessment.

3.3.2 The Service Provider must provide a list of proposed (indigenous) plants with detailed characteristics of each plant to the regional project manager and designated horticulturist for approval.

3.3.3 The Service Provider is further expected to render technical management, and supervisory functions of the service and ensure that the project is well implemented throughout the contract and requirements are met in full thus providing constantly an aesthetically pleasing garden.

3.3.4 To provide all equipment required for the rendering of the service. To provide all necessary transportation, supervision, labour, licenses, tools, equipment, services, and expertise to apply to the installation of Vertical and Horizontal gardens and landscaping.

- 3.3.5 The Service Provider shall designate a representative who shall be responsible for onsite supervision of the workforce at all times. The Service Provider shall perform inspection visits to the work site regularly.
- 3.3.6 The Service Provider shall provide a list with the relevant document of their employees permitted onsite during the contracted period of the installation of the Vertical and Horizontal gardens.
- 3.3.7 The service provider shall utilize products that have a low negative environmental impact.
- 3.3.8 The Service Provider shall utilize the services of a locally trained horticulturist with experience in horticulture and garden landscaping to give technical guidance to the service provider's workforce and to develop and guide the service provider's program.
- 3.3.9 The Service Provider shall familiarize themselves with the relevant applicable legislation and will be held responsible for any contravention by DPWI.
- 3.3.10 Testing of humidity and indoor air quality for the identification of priority spaces where plants should be placed before installation of gardens. Tests should be done before the installation of the gardens and after the installation. The Service Provider must submit a full report to the project manager, report must detail all aspects that affected test results.
- 3.3.11 An environmental management plan shall be set up to assure the proper environmental management of the installation of garden and landscape services throughout its entire life cycle (i.e. during design, installation, operation and maintenance, decommissioning, and disposal phases).
- 3.3.12 A Health and Safety plan shall be set up to assure compliance with relevant OHS acts and regulations.
- 3.3.13 A Waste Management Plan shall be set up to assure compliance with relevant NEM: WA and regulations for responsible and sound disposal of generated waste during the installation of the Biodiversity project.

4. DURATION OF THE PROJECT

- 4.1 The Biodiversity: Vertical and Horizontal Gardening project shall be for 6 months.

5. PAYMENT

5.1 Payment will be based on the achievement of a pre-determined milestone and in line with the approved project proposal. The Department will not make an upfront payment to a successful service provider. Payment will only be made within 30 days in accordance with the delivery of services that will be agreed upon by both parties and upon receipt of an original invoice.

6. REPORTING

6.1 The service provider will submit monthly progress reports to the Project Manager, within 4 working days after the end of each month for the duration of the project;

6.2 All resulting reports and data shall be delivered in two copies, i.e. in electronic format and hard copies. All draft and final reports shall be printed in full colour. The reporting language is English. All documents and copyrights, including data and databases developed during the process, will remain the intellectual property of the DPWI;

6.3 All drafts and final reports shall be submitted in full by the end of the project to the Deputy Director General: Green Building. They must be edited, completed, and presented in their final versions.

7. PROJECT OUTPUT/ DELIVERABLES

7.1 A skeletal framework that is strung with multiple parts that house the plants and flowers that make up the garden in the end.

7.2 Structural Load report that determines the maximum weight that a wall can support without causing stress to the structure. The equivalent wall pressure and maximum bending must be provided in the structural report.

7.3 Designs of indoor and north-facing natural plant garden that is healthy and functional. Indigenous plants, potent air purifiers, and edible must all be included in the garden.

- Watering System
- Planters must be provided with a custom mould in the exact size, and dimensions of the final product to meet the design requirements.

- 7.4 Document guidelines on garden maintenance to DPWI personnel.
- Design & Specification of Garden and maintenance systems that adhere to legislations and regulations of South Africa.
 - Scoping and milestones
 - Humidity and indoor air quality report
 - Methodology, and Project Plan
 - Timeframes

8. BRIEFING SESSION

- 8.1 There shall be no briefing session for this tender process.

9. COSTING

9.1 The service provider will be requested to give a quote with a proposal regarding the work to be undertaken for this project. A summary of the overall proposed charges for the services should be provided. The cost must be VAT inclusive and should be quoted in South African rand;

9.2 Detailed costing should be aligned with the project activities and project phases and professional fees;

9.3 A breakdown of the charges to be applied to each of the tasks described above, including any reimbursable and miscellaneous expenses as per the Pricing Schedule in section 17, below. The bid amount should be all-inclusive.

10. ENVIRONMENTAL MANAGEMENT PLAN

10.1 The service provider is required to provide an environmental management plan that provides mitigation, monitoring, and institutional measures to be taken during the pre-implementation, implementation, and post-implementation phases of the project;

10.2 The environment management plan, must illustrate detailed planning of elimination or offsetting of adverse environmental and social; and positive attributes resulting from the project

10.4 A service provider without ISO accreditation needs to submit their Quality Procedures Manual in addition to objective evidence of a functional Quality Management System.

11. HEALTH AND SAFETY PLAN

11.1 The service provider is required to provide evidence of a functional Occupational Health and Safety Management System in line with ISO 45001;

11.2 A service provider that is ISO certified must submit the certificate in addition to objective evidence of a functional Occupational Health and Safety Management System;

11.3 A service provider without ISO accreditation needs to submit their Occupational Health and Safety Management, Procedures Manual in addition to objective evidence of functional Occupational Health and Safety Management.

12. QUALITY PLAN

12.1 The service provider is required to provide evidence of a functional Quality Management System in line with ISO 9001:2008;

12.2 A service provider that is ISO certified must submit the certificate in addition to objective evidence of a functional Quality Management System;

12.3 A service provider without ISO accreditation needs to submit their Quality Procedures Manual in addition to objective evidence of a functional Quality Management System.

13. RISK PLAN

13.1 The service provider is required to provide a risk management plan to identify possible sources of risk and uncertainty, determine the impact of the risk and uncertainty, and develop mitigating responses to minimise their impact on the project.

13.2 The Service Provider shall inform the designated Project Manager of any damages caused by the service provider's operations on the day such damages occur.

13.3 Any damage to property as the result of the Service provider's operations shall be the responsibility of the service provider.

13.4 In the event the damage caused by the service provider is not rectified within the time agreed upon or to the satisfaction of the designated Project Manager, DPWI reserves the right to repair or replace that which was damaged and deduct these costs from any payment due to the service providers.

13.5 The Service Provider shall be responsible for ensuring the safe handling, application, removal, and environmentally sound disposal of all hazardous or potentially hazardous fertilizers, and weed-preventing products utilized in this requirement. The Service providers shall comply with the OHS Act.

13.6 Any accident, however minor, shall be verbally reported to the Project Manager followed by a written report within 24 hours.

14. SKILLS DEVELOPMENT PLAN

14.1. The service provider must ensure that there is a skills transfer for DPWI officials within the specified Region. At least 1 virtual training workshop/seminar must be arranged by the service provider for DPWI officials to cover maintenance of the Biodiversity: Vertical and Horizontal Garden.

15. PROJECT EXECUTION PLAN

15.1 The service provider is required to provide a detailed proposed Project Execution Plan indicating:

15.1.1 Intermediate and final outputs and identified timeframes/milestones;

15.2 A clear research methodology and approach must be indicated in the proposal. The methodology must outline how the planned work will be carried out and should be according to each phase or deliverable of compiling the technical report.

15.3 Management of the project.

15.4 The service provider under consideration will be required to present their Project Execution Plan, detailed work plans, including a timetable for key deliverables to the Department;

16. EVALUATION CRITERIA

| No | Criteria | Weights |
|----|--|---------|
| 1 | <p>COMPANY EXPERIENCE:</p> <p>The service provider must have completed Urban Biodiversity projects. Contactable reference letters on Urban Biodiversity must be attached as proof of work completed.</p> <p>5 letters or more of proven experience 5 Points 4 letters of proven experience 4 Points 3 Letters of proven 3 Points 2 letters of proven experience 2 Points 1 letter of proven experience 1 Point No letter of proven experience 0 Points</p> | 30 |
| 2 | <p>EXPERIENCE AND PROFESSIONAL REGISTRATION:</p> <p>CVs of the Team Leader and Team Members must be attached to the technical proposal as proof, and should reflect the number of projects executed and years' experience by the project leader Experience:</p> <p>5 years or more experience indoor vertical and horizontal gardens 5 Points 4 years experience 4 Points 3 years experience 3 Points 2 years experience 2 Points 1 year experience 1 Point Less than one year experience 0 Points</p> | 10 |
| 3 | <p>CVs of Team Members (two members) must be attached to the technical proposal as proof and should reflect the number of projects executed and years of experience by each team member. Team members must have experience in an indoor vertical and horizontal garden:</p> <p>5 years experience 5 Points 4 years experience 4 Points 3 years experience 3 Points 2 years experience 2 Points 1 year experience 1 Point No experience 0 Point</p> | 10 |
| 4 | <p>QUALIFICATIONS</p> <p>Qualifications: Team Leader Degree in engineering or Built Environment Certified copies of certificates must be attached to the proposal as proof:</p> <p>Master's Degree 5 points Honours degree with 4 points Bachelor's Degree with 3 points Diploma with 2 points Certificate 1 point</p> | 15 |

| No | Criteria | Weights |
|-------------------------------|---|---------|
| 5 | <p>QUALIFICATIONS Team Members (two members) must have Engineering or Built Environment or equivalent qualification. Certified copies of certificates must be attached to the proposal as proof:</p> <p>Bachelor's Degree and above with 5 points Bachelor's Degree without 4 points National Diploma with 3 points National Diploma without 2 points Certificate and less 1 point</p> | 10 |
| 6 | <p>METHODOLOGY: A detailed methodology that addresses the following amongst others:</p> <ol style="list-style-type: none"> 1) Project Execution plan (with clear milestones and timelines) 2) Quality Plan 3) Environmental Plan 4) Health and Safety Plan 5) Risk Plan 6) Skill transfer plan <p>Methodology covering all above aspects 5 Points Methodology covering 3 aspects 4 Points Methodology covering 2 aspects 3 Points Methodology covering 1 aspect 2 Points Methodology with no aspect 0 Point</p> | 25 |
| Total | | 100 |
| Minimum Technical Requirement | | 60 |

17. FORMAT AND SUBMISSION OF PROPOSAL

17.1 All standard official bidding document forms (PA) must be completed in all respects by bidders. Failure to comply will invalidate a bid. Bidders are requested to submit one (1) original proposal including bid documents.

18. ENQUIRIES

18.1 Project Manager: Andile Mhlangu
Green Building Directorate
Email: Andile.Mhlangu@dpw.gov.za
Tel: 012 406 1662

17. PRICING SCHEDULE

Table 2: Pricing schedule for Horizontal and Vertical Gardening

| Item | Deliverable | Qty | Rate | Amount (Excl.Vat) |
|------|--|-----|------|-------------------|
| 1. | Horizontal and Vertical Garden at Durban regional office | Sum | | |
| | Sub-Total | | | |
| | VAT at 15% | | | |
| | Total | | | |
| | | | | |