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## GOVERNMENT NOTICES

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### SOUTH AFRICAN QUALIFICATIONS AUTHORITY

No. 403

9 April 2009



### SOUTH AFRICAN QUALIFICATIONS AUTHORITY (SAQA)

In accordance with Regulation 24(c) of the National Standards Bodies Regulations of 28 March 1998, the Standards Generating Body (SGB) for

#### Ornamental Horticulture and Landscape

registered by Organising Field 01 – Agriculture and Nature Conservation, publishes the following Qualifications and Unit Standards for public comment.

This notice contains the titles, fields, sub-fields, NQF levels, credits, and purpose of the Qualifications and Unit Standards. The full Qualifications and Unit Standards can be accessed via the SAQA web-site at [www.saqqa.org.za](http://www.saqqa.org.za). Copies may also be obtained from the Directorate of Standards Setting and Development at the SAQA offices, SAQA House, 1067 Arcadia Street, Hatfield, Pretoria.

Comment on the Qualifications and Unit Standards should reach SAQA at the address below and **no later than 11 May 2009**. All correspondence should be marked **Standards Setting – SGB for Ornamental Horticulture and Landscape** and addressed to

The Director: Standards Setting and Development  
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D. MPHUTHING

ACTING DIRECTOR: STANDARDS SETTING AND DEVELOPMENT



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**QUALIFICATION:**  
**National Certificate: Landscaping**

SAQA QUAL ID		QUALIFICATION TITLE	
66649		National Certificate: Landscaping	
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	1 - Agriculture and Nature Conservation	Horticulture	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 3	Regular-Unit Stds Based

***This qualification does not replace any other qualification and is not replaced by another qualification.***

**PURPOSE AND RATIONALE OF THE QUALIFICATION**

**Purpose:**

This qualification provides learners with a comprehensive base of portable skills that will enable them to progress within all spheres of the horticultural industry. This qualification forms an integral step in the career paths of the various disciplines in ornamental horticulture and follows on from the NQF Level 2 Certificate. For those already employed in the industry, this qualification will offer learners the opportunity to hone their skills and receive recognition for their competencies.

A Learner achieving this qualification will be able to work effectively and productively within the field of horticulture knowing how to:

- Ensure health and safety standards in the horticultural industry.
- Maintain practices of providing plant care and nutrition for ornamental plants and landscapes.
- Shape trees and shrubs to promote flowering.
- Ensure that alien invader plants are controlled.
- Recognize a range of ornamental plants used in horticulture and care for plants that require special attention.
- Ensure that grassed areas are maintained through the application of mowing and de-thatching practices.
- Ensure that the irrigation systems installed in landscaped areas are properly maintained.
- Supervise and maintain specific sportsturf areas.

For those wishing to enter the industry, whether unemployed or as an Entrepreneur, this qualification offers a solid foundation in all aspects of the horticultural industry. This qualification represents a vital step in the development of a career and learning pathway of individuals, both from a vocational point of view, as well as from a learning point of view.

**Rationale:**

South Africa has the richest floral kingdom in the world and attracts thousands of visitors each year who enjoy the diversity of the flora in the different geographic regions. Numerous international horticultural conferences are held in South Africa. This confirms the importance of

horticultural aspects in the daily lives of South Africans and the positive economic effect that the sales of horticultural products and services have being available to both the local and international markets.

South Africa has a vibrant horticultural industry and numerous local events for the consumer, as well as the trade, are arranged. These range from talks on specific subjects to international conferences and exhibitions where South African experts are available to present papers and answer questions. These events also attract overseas horticultural experts, suppliers and gardening enthusiasts.

In the context of the above, it is therefore vital that the South African workforce be up-skilled to become more knowledgeable, efficient and productive to ensure the "horticultural firmament" continues shining brightly and to grow the potential of designers, installers and growers in the various sectors of the horticultural industry.

The skills gained through this qualification will ensure that, not only will quality ornamental plants be produced and marketed to consumers, but that the environment will be protected against the invasion of alien plants in natural areas as well as in commercial and residential gardens and recreation areas.

The qualification will facilitate job creation and self employment opportunities, while furthering the aims of economic empowerment in South Africa.

The qualification includes the skills necessary to monitor and maintain health and safety in the horticultural industry while addressing the nutritional needs of plants, controlling common pests in the horticultural environment, attending to the basic maintenance of grassed areas and shaping plants to promote flowering. In addition, the qualification provides the opportunity for the learner at level 3 to become conversant with the application of supervisory management principles in the industry.

As the qualification is based on the common core of the preceding NQF Level 1 and 2 qualifications, it embodies the principle of portability and is integral to further learning, despite its focus being on the more specialised field of landscaping. Through the wide scope of electives, the specialisations of the various sectors are catered for.

The sectors of the horticultural industry that will benefit from this qualification include:

- Landscape construction and maintenance.
- Amenity horticulture.
- Sports turf.
- Arboriculture.
- Plant propagation.
- Interior plantscaping.
- Retail nurseries.

This qualification addresses both the current and future needs of horticulture in South Africa.

#### **RECOGNIZE PREVIOUS LEARNING?**

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#### **LEARNING ASSUMED IN PLACE**

The industry will encourage potential Learners to embark on this qualification as it has universal relevance to the industry and is nationally recognized. Learners who would like to access this qualification should have demonstrated competency in:

- Literacy and Numeracy at NQF Level 2.

- ID 119687: Demonstrate a basic understanding of the horticultural industry.

Learners should also preferably have completed the following unit standards prior to commencing with this qualification:

- Provide care for ornamental plants at NQF Level 2.
- Apply pest control practices in ornamental plant production and landscaping at NQF Level 2.
- Prune and shape shrubs at NQF Level 2.
- Provide nutrition to plants and landscapes at NQF Level 2.

Recognition of Previous Learning:

The qualification may be achieved wholly or in part through the Recognition of Prior Learning and the qualification may be granted to learners who have acquired the skills and knowledge without attending formal courses providing they can demonstrate competence in the outcomes of the individual Unit Standards as required by the Fundamental, core and Elective areas stipulated in the Qualification and by the Exit Level Outcomes.

An RPL process may also be used to credit learners with Unit Standards in which they have developed the necessary competency as a result of workplace and experiential learning.

#### **QUALIFICATION RULES**

The certificate is made up of a planned combination of learning outcomes that have a defined purpose and will provide qualifying learners with applied competence and a foundation for further learning.

The qualification consists of a minimum of 120 credits, composed of:

- Fundamental; 36 credits (compulsory).
- Core; 65 credits (compulsory).
- Electives; Learners must choose suitable Unit Standards from the listed elective to obtain a total of at least 19 credits.

#### **EXIT LEVEL OUTCOMES**

1. Distinguish the various internal structures of ornamental plants.
2. Identify and correct nutrient deficiencies in ornamental plants.
3. Identify and control the pests that commonly occur in the landscape environment.
4. Perform the mowing and de-thatching of sportsturf or landscaped grass areas.
5. Utilise the various pruning practices to encourage the flowering of ornamental plants.

#### **ASSOCIATED ASSESSMENT CRITERIA**

Associated Assessment Criteria for Exit Level Outcome 1:

- 1.1 The different root types are identified with respect to their characteristic structures.
- 1.2 The various functions that a stem performs is explained in terms of its supportive role and the translocation of water, carbohydrates and nutrients.
- 1.3 The different structures and functions of a leaf are identified in terms of their role in the process of photosynthesis.
- 1.4 The various components in a flower are described within the context of the functions that they perform in the reproductive processes.
- 1.5 The different components in a flower are identified in terms of the functions that they perform.

Associated Assessment Criteria for Exit Level Outcome 2:

- 2.1 The factors that negatively affect the availability of nutrients for plants are described in relation to the pH levels in the soil.
- 2.2 The macronutrients used by plants are described in terms of the contributions that each makes in ensuring healthy growth.
- 2.3 The indications of one or more macronutrient deficiency in plants are described in terms of the particular signs that they exhibit.
- 2.4 The nutrients that can be applied to the soil to compensate for a deficiency are described in relation to the particular compounds that contain the required nutrients.

Associated Assessment Criteria for Exit Level Outcome 3:

- 3.1 The benefits of implementing an integrated pest control program are described in terms of the use of varied cultural practices, not just the reliance on chemicals.
- 3.2 The different cultural practices that comprise an integrated pest control program are identified with regard to the specific control strategy that they employ.
- 3.3 A selection of pestilent insects that are commonly found in the landscape environment are identified within the context of the most effective suitable control to use.
- 3.4 The procedures for the application of chemical controls are demonstrated in accordance with the health and safety practices.

Associated Assessment Criteria for Exit Level Outcome 4:

- 4.1 The turf care practices that must be implemented to maintain a quality cut are described in terms of the various settings and adjustments that are necessary.
- 4.2 The conditions that dictate the need to de-thatch the grass are described in relation to the spongy build up of thatch.
- 4.3 The process of scarifying a lawn or turfgrass is described in terms of the removal of all surface grass to encourage new growth.
- 4.4 The upkeep that is necessary to ensure the continued quality of the turfgrass surface is described in terms of the preventative maintenance schedules that must be followed.

Associated Assessment Criteria for Exit Level Outcome 5:

- 5.1 The necessity of assessing the structure of a shrub before any branches are removed is explained with regards to the shape and form that will promote the optimum production of blooms.
- 5.2 The particular methods of pruning plants that flower on the new season's growth are described in terms of the techniques to cut out internal cross growth and remove the "old" wood.
- 5.3 The importance of correctly scheduling the pruning of plants that flower on the previous seasons wood is explained within the context of the essential need to prune immediately after flowering has ceased.
- 5.4 The techniques for the pruning of climbing roses are described in terms of the manipulation of the branches to obtain the required density and blooms.
- 5.5 The function and role of the feeding, weeding and pest control programs are explained and implemented to ensure that optimal plant growth is achieved.

Integrated Assessment:

The integrated assessment allows the Learners the opportunity to show that they are able to utilize concepts, ideas and actions across unit standards. This will allow learners to achieve competency that is in keeping with the purpose of the qualification.

An integrated assessment will indicate how theoretical learning is demonstrated in a practical environment in such a way that the application of the work learnt becomes second nature.

In conducting an assessment, the quality of the performance must also be evaluated i.e. both the performance and the thinking behind the action must be qualitative.

The assessment should include both formative and summative options and should use various assessment tools i.e. not by observation only. It is suggested that a Portfolio of Assessment form part of the summative assessment, with practical outcomes being demonstrated in a simulated or real work place situation.

A broad range of task-orientated and theoretical tools may be used, with the distinction between practical knowledge and disciplinary knowledge being maintained.

Unit Standards in the qualification must be used to assess the specific and Critical Cross Field Outcomes. It is recommended that the assessment tools give Learners the opportunity to account for their decision-making and problem solving in line with the Specific Outcomes and related Assessment Criteria.

As a result of this qualification being generic in forming the foundation for a career in horticulture, Learners should be assessed in occupational contexts and activities. The assessment should ensure that the foundational skills are portable and prepare them for further learning, whatever career path they may choose.

#### **INTERNATIONAL COMPARABILITY**

Over the last 50 years, South Africa has been an active member of the International Federation of Parks and Recreation Administration. Each year this body holds a congress in a different international city. These congresses serve to highlight the international best practices for the horticultural industry. Parks and gardens are showcased to exhibit the latest trends in amenity landscaping and garden maintenance. The congresses also provide the members with the opportunity to examine the training facilities and courses offered by the host countries.

South Africa's representative has served on the executive committee for the past decade and has conducted specific comparative research for this qualification and for the Landscape qualifications for levels 3 and 4.

Worldwide, the horticultural industry is composed of distinct disciplines, each catering to a particular sector of the market. In the past, training concentrated on the production of generalist horticulturalists. As in other industries, technological advancements have engendered a move to specialisations.

Internationally, some countries commence their specialisations at level 1, for example Australia. In contrast, other countries have elected to begin their specialisations at levels 2 or 3. Various factors influence this, the most notable include:

- Climatic conditions which restrict normal horticultural activities.
- Economic constraints, typically the poorly developed economies where landscaping has a low priority.
- Relatively small markets, where economies of scale preclude specialisations.

To obtain an African perspective the qualifications of the following SADC countries were investigated: Angola, Botswana, DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe.

From a global viewpoint these countries are typified as developing nations, with a primary focus on subsistence. Consequently agricultural training is paramount to ensuring food security for

their populations. As agricultural land care practices are broadly parallel to landscaping, their learners that have had agricultural training may readily embark on a horizontal articulation in landscaping. Landscaped gardens are rare in these countries with the majority of landscaping occurring in the hotel and tourist fields. These projects and the maintenance thereof are usually contracted to South African landscaping companies. As a consequence no specific landscaping training is conducted in these areas. The horticulturists who maintain these landscapes are either sourced from South Africa or they obtain their qualifications from our tertiary institutions.

Various international qualifications with similar content to this qualification were sourced. In examining these, the following have been used for comparison, although they do not necessarily address the subjects from the same perspective, they do contain aspects relevant to those used in South Africa. The following qualifications and the particular unit standards that were selected for comparison with various components of this qualification are listed hereunder.

#### Australia

The landscaping industry in Australia has a similar profile to that of South Africa, although they operate at a more advanced level. This is evidenced by the fact that specialisation in a specific field may occur from entry level. In addition, the learner may be required to undertake licensing before commencement of training or of entering the industry. Their various horticultural qualifications at each specific level do, however, include a number of common unit standards.

The following qualifications were examined, and the notable similarities are:

Certificate III in Horticulture (Landscape)-Reference No RTF30403:

Of all the worldwide searches that were conducted, this level 3 qualification has the greatest similarity to its South African counterpart. The relevant unit standards are as follows:

Reference No RTC3701A-Respond to emergencies:

- This level 3 unit standard addresses the preparation for emergency situations and the implementation of control, evaluation of the emergency, action taken and the first aid techniques that should be applied.
- The "Monitor and maintain health and safety standards in horticulture" unit standard has a similar intent to the above, in that it also refers to the preparation for emergency situations, but in addition it covers the practices for safe handling and storing of hazardous chemicals in the landscaping industry.

Reference No RTC3404A-Control plant pests, diseases and disorders:

- This level 3 unit standard is concerned with the assessment of pest infestations, the plan to control these including the implementation and monitoring of control measures.
- The "Identify and control common pests in the horticultural environment" utilises a similar approach while relating this to the identification of common pests found in the area and the preventative control practices that could be considered.

Reference No RTF3028A-Perform specialist amenity pruning:

- This level 3 unit standard is concerned with the preparation for specialist amenity pruning, the act of pruning and the evaluation of the quality of pruning conducted.
- The "Prune shrubs and other ornamental plants to promote quality flowering" unit standard incorporates a similar approach to the above with an emphasis on promoting the flowering capacity of the plants in the landscaping environment.

Reference No RTF3018A-Implement a tree transplanting program:

- This level 3 unit standard covers the procedures used in preparing the tree for the process of transplanting, implementing transplanting operations and maintaining the health and viability of the transplanted tree in the landscape environment.
- The "Transplant and establish trees and shrubs in horticultural areas" unit standard, in essence, follows the same procedures and methodology.

Reference No RTF3036A-Plan and establish plant displays:

- This level 3 unit standard covers the process of planning and establishing plant displays indoors or as seasonal displays in garden beds.
- The "Arrange and install a plant decoration" unit standard, in essence, follows the same procedures and methodology, but also includes the procedure for dismantling plant displays.

Reference No RTF3012A-Implement a plant nutrition program:

- This level 3 unit standard covers the process for implementing a plant nutrition programme in the landscaping environment. It covers the preparation for implementation of a plant nutrition programme, determining the nutritional problems and the application of correct products for the problem identified in the landscaping environment.
- The "Identify nutrient deficiencies in ornamental plants and apply the corrective measures" unit standard, in essence, follows the same procedures and methodology, but includes the practices that must be implemented to ensure that the correct balance of nutrients is maintained.

Reference No RTE3605A-Troubleshoot irrigation systems:

- This level 3 unit standard covers the processes involved in troubleshooting faults and blockages in irrigation systems in the landscape environment.
- The "Maintain landscape and sports turf irrigation systems" unit standard in essence, follows the same procedures and methodology, but includes the drafting of an annual irrigation schedule.

Reference No RTF3612A-Implement a maintenance program for an irrigation system:

- This level 3 unit standard covers the process of implementing a maintenance programme for an irrigation system. It focuses on the interpretation of the maintenance programme, the inspection of the system and the action taken to repair the system in the landscape environment.
- The "Maintain landscape and sports turf irrigation systems" unit standard in essence, follows the same procedures and methodology, but includes the drafting of an annual irrigation schedule.

#### United Kingdom

The United Kingdom has a long history of landscaping horticultural practice and is considered to be the origin of the modern horticultural foundational practice. South Africa has long been seen as an ideal horticultural environment, considering that it has the richest floral kingdom in the world. As a result many South African plants have been cultivated and hybridised in the United Kingdom with the loss of research and income to the country. It is imperative that, against this background, studies in landscape and horticultural practices in South Africa follow a professional path and are comparable, at least, to the best studies in the United Kingdom, but also within the broader international horticultural community.

The qualifications from the United Kingdom at level 3 that may be favorably compared to the South African landscaping level 3 qualification are the:



- NPTC Level 3 Advanced National Certificate in Horticulture.
- NPTC Level 3 Advanced National Certificate in Horticulture: Landscape construction and maintenance.
- NPTC Level 3 Advanced National Diploma in Horticulture.
- NPTC Level 3 Advanced National Diploma in Horticulture: Landscape construction and maintenance.
- BTEC Level 3 National Certificate in Horticulture.
- BTEC Level 3 National Diploma in Horticulture.
- NPTC Level 3 Certificate in Amenity Horticulture (QCF).
- NPTC Level 3 Award in Amenity Horticulture (QCF).
- NPTC Level 3 Diploma in Amenity Horticulture (QCF).
- NPTC Level 3 Advanced National Certificate in Sports and Amenity Turf Management.

There are however, a number of stand-alone unit standards that have relevance to this qualification. These will be referred to briefly.

The relevant unit standards are:

Registration No Y/500/9063-Tree pests and diseases:

- This level 3 unit standard is concerned with the understanding, identification and life cycles of pathogens that affect trees in particular. Monitoring, prevention and control measures are also covered.
- The "Identify and control common pests in the horticultural environment" unit standard has a similar intent to the above, although its focus is broader in that it covers all plants in the landscaping environment and not only trees. The principles applied in the horticultural industry remain similar irrespective of the plant type.

Registration No H/501/1155-Decorative horticulture:

- This level 3 unit standard addresses the maintenance of plants for a decorative display. The focus is on planning, implementing and maintaining a display.
- The "Arrange and install a plant decoration" unit standard has a similar purpose in that the learner will learn how to plan, select relevant plant material and install a plant display at or in a specific venue. In this unit standard the additional aspect of dismantling a plant display is addressed.

Registration No J/501/1164-Sports Turf Maintenance:

- This level 3 unit standard covers the maintenance of sports turf surfaces. It caters for the broader, more generalist aspects of sports turf maintenance, but does include the identification and treatment of common diseases, weeds, pests and disorders for sports turf surfaces.
- The "Maintain bowling greens" unit standard aims to provide the learner with the necessary information in order to manage the bowling green environment, the maintenance of the green, as well as the implementation of pest control and fertilising programmes. Over and above this, the unit standard also provides the learner with the opportunity to learn how to prepare the bowling greens for a tournament, which is not covered in the international unit standard referred to above.

Registration No J/501/1178-Turf Irrigation and Drainage:

- This level 3 unit standard serves to familiarize learners with the use, maintenance and repair of irrigation systems. Specifically the learner will have the opportunity to learn how to plan and maintain irrigation systems in the landscaping environment.
- The "Maintain landscape and sports turf irrigation systems" unit standard focuses on the repair, service and maintenance of irrigation systems in the landscaping environment. This unit

standard is comparable with the international unit standard referred to above, although the South African unit standard includes the drafting of an annual irrigation schedule.

Registration No R/500/9062-Tree Identification, Planting and Care:

- This level 3 unit standard addresses the selection criteria for a range of tree and shrub species, the planting of a wide range of trees and shrubs of various sizes and types in various situations and the care that needs to be provided after planting in the landscape.
- The "Transplant and establish trees and shrubs in horticultural areas" unit standard is comparable to the above in its purpose, but, within the South African landscaping context, the learning covers the transplanting of trees and shrubs. It also refers to the identification and selection of trees and shrubs for the relevant environment, covering aspects such as safe transportation and initial care.

Registration No Y/501/0455-Maintain and develop decorative horticultural displays:

- This level 3 unit standard covers the maintenance of the appearance and the health of the plants in horticultural displays.
- The "Arrange and install a plant decoration" unit standard may be compared to the above in terms of the general practices applicable, but this unit standard also includes the selection of the plant and materials for the display, as well as the process of dismantling a plant display.

Registration No J/501/0435-Plan the maintenance, repair and renovation of sports turf areas:

- This level 3 unit standard covers the planning and implementation of maintenance operations for sports turf areas. Maintenance of the appearance and the health of the plants in horticultural displays.
- The "Maintain bowling greens" unit standard may be compared to the above in terms of the general practices applicable, but this unit standard also includes the preparation of bowling greens for a tournament.

Registration No D/501/0439-Maintain irrigation systems:

- This level 3 unit standard addresses the routine and ad hoc maintenance to ensure the efficient operation of irrigation systems in the horticultural environment. It focuses on understanding how to maintain irrigation systems, the planning and implementation of maintenance programmes taking into consideration the planted areas.
- The "Maintain landscape and sports turf irrigation systems" unit standard highlights the technical aspects of the maintenance, service and repair of the irrigation system, although the principles and requirements for maintenance are similarly covered.

Registration No D/501/4054-Management of sports turf-Cricket facilities:

- This level 3 unit standard provides learners with the knowledge and skills to manage the turf surfaces for cricket.
- The "Supervise the maintenance of a turf cricket pitch and outfield" unit standard provides the learner with the knowledge to manage and monitor the maintenance of the cricket pitch and outfield, supervising the marking of outfield and pitches. This unit standard covers the selection and supervision of fertiliser applications. It also includes the monitoring of the operation and maintenance of the turf care machinery and equipment.

Registration No h/501/4055-Management of sports turf-Bowling greens:

- This level 3 unit standard provides learners with the knowledge and skills to manage bowling green surfaces.

- The "Maintain bowling greens" unit standard focuses on the management of the bowling green environment, various turf improvement procedures in this context, maintenance of the relevant equipment, implementing a pest control and fertiliser programme and preparing the bowling greens for a tournament. It therefore covers a wider range of learning than the unit standard "Management of sports turf-Bowling greens".

#### New Zealand

No qualifications are registered at Level 3 for the landscaping field, although a number of horticultural unit standards have been generated that have some parallel components to those developed in the South African Landscaping qualification.

#### Scotland

No qualifications are registered at Level 3 for the landscaping field, although a number of horticultural unit standards have been generated that have some parallel components to those developed in the South African Landscaping qualification.

#### Conclusion

The three qualifications compare favourably against those offered in the UK and Australia. The South African unit standards have a greater content and detail than those of the above countries, which will ensure that learners will be able to gain the best possible training in the horticultural fields.

The Scottish and New Zealand qualifications and unit standards have a limited focus on landscaping and therefore offer little in comparison.

The USA has no formally recognized horticultural qualifications at the NQF 2 or 3 levels.

SADC countries have no horticultural qualifications or unit standards, as their horticulturists are either sourced from South Africa or they obtain their qualifications from our tertiary institutions.

In conclusion, the three qualifications meet and in many instances exceed the standards of training offered elsewhere in the world.

#### **ARTICULATION OPTIONS**

The generic nature of this qualification and its focus on the foundational multi-skilling, facilitates the vertical articulation within the horticultural industry, to any of the following qualifications:

##### Horizontal Articulation:

- ID: 49052; National Certificate: Plant Production, NQF Level 3.

##### Vertical Articulation:

- ID: 49009; Further Education and Training Certificate: Plant Production, NQF Level 4.
- ID: 58163; Further Education and Training Certificate: Community Recreation, NQF Level 4.
- ID: 49127; Further Education and Training Certificate: Design Foundation, NQF Level 4.
- ID: 61669; Further Education and Training Certificate: Community Water Sanitation and Health Facilitation, NQF Level 4.

As the basics of Agriculture and horticulture are parallel, horizontal articulation in the fields of Agronomy, Fruit and Vegetable Production, Nature Conservation and Forestry are possible.

#### **MODERATION OPTIONS**

Source: National Learners' Records Database

Qualification 66649

25/03/2009

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- Anyone assessing a learner against these unit standards must be registered as an assessor with the relevant ETQA and have experience or in depth knowledge of the horticultural industry.
- Any institution offering learning that will enable achievement of these unit standards or will assess these unit standards must be accredited as a provider with the relevant ETQA. Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the qualification and the agreed ETQA procedure.
- Therefore anyone wishing to be assessed against these unit standards may apply to be assessed by any assessment agency, assessor or provider institution which is accredited by the relevant ETQA.

#### **CRITERIA FOR THE REGISTRATION OF ASSESSORS**

Assessors must:

- Be accredited as an assessor by the relevant ETQA.
- Have experience or in depth knowledge of the horticultural industry, specifically as it relates to ornamental aspects.
- Meet any other requirements that may be stipulated by the relevant ETQA.
- Hold a qualification in Horticulture or Agriculture at NQF Level 5 or higher.

#### **NOTES**

N/A

#### **UNIT STANDARDS**

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	119472	Accommodate audience and context needs in oral/signed communication	Level 3	5
Fundamental	9010	Demonstrate an understanding of the use of different number bases and measurement units and an awareness of error in the context of relevant calculations	Level 3	2
Fundamental	9013	Describe, apply, analyse and calculate shape and motion in 2-and 3-dimensional space in different contexts	Level 3	4
Fundamental	119466	Interpret a variety of literary texts	Level 3	5
Fundamental	119457	Interpret and use information from texts	Level 3	5
Fundamental	9012	Investigate life and work related problems using data and probabilities	Level 3	5
Fundamental	7456	Use mathematics to investigate and monitor the financial aspects of personal, business and national issues	Level 3	5
Fundamental	119465	Write/present/sign texts for a range of communicative contexts	Level 3	5
Core	264274	Apply biological and chemical control of alien invader plants.	Level 3	5
Core	264235	Apply supervisory management principles in a horticultural enterprise	Level 3	10
Core	264259	Identify a range of ornamental plants used in the horticultural industry	Level 3	10
Core	264236	Identify and control common pests in the horticultural environment	Level 3	6
Core	264258	Identify and correct nutrient deficiencies in ornamental plants	Level 3	8
Core	264241	Identify the internal structures of ornamental plants	Level 3	10
Core	264234	Monitor and maintain health and safety standards in horticulture	Level 3	5
Core	264255	Mow and de-thatch grassed areas	Level 3	5
Core	264257	Prune shrubs and other ornamental plants	Level 3	6
Elective	264195	Operate chainsaws for limbing and logging at ground level	Level 2	6
Elective	264314	Apply spring treatment to bowling greens	Level 3	8
Elective	264254	Arrange and install a plant decoration	Level 3	5
Elective	264186	Conduct controlled tree felling in various locations	Level 3	6
Elective	264041	Maintain landscape and sportsturf irrigation systems	Level 3	8

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Elective	264238	Utilise earthmoving equipment to excavate and shape a landscape	Level 3	6
Elective	264239	Care for plants that require specific treatment or conditions in landscapes	Level 4	8
Elective	264240	Establish and manage a composting plant	Level 4	6
Elective	264295	Maintain bowling greens	Level 4	10
Elective	264237	Supervise the maintenance of a turf cricket pitch and outfields	Level 4	8
Elective	264315	Transplant and establish trees and shrubs in horticultural areas	Level 4	6

**LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION****None**



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Monitor and maintain health and safety standards in horticulture*

SAQA US ID	UNIT STANDARD TITLE		
264234	Monitor and maintain health and safety standards in horticulture		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Describe the legislative provisions that regulate health and safety in the horticultural environment.

**SPECIFIC OUTCOME 2**

Identify the potential hazards that may be found in the workplace and the safety checks that must be performed to minimise safety incidents.

**SPECIFIC OUTCOME 3**

Identify the possible safety risks that hazardous chemicals pose and the precautionary checks that have to be conducted to prevent these.

**SPECIFIC OUTCOME 4**

Monitor the standards of housekeeping in the workplace.

**SPECIFIC OUTCOME 5**

Conduct safety meetings with staff and complete all necessary documentation.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Apply supervisory management principles in a horticultural enterprise*

SAQA US ID	UNIT STANDARD TITLE		
264235	Apply supervisory management principles in a horticultural enterprise		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Understand the role, structure and activities of management in an enterprise.

**SPECIFIC OUTCOME 2**

Apply the operational principles of management in the horticultural workplace.

**SPECIFIC OUTCOME 3**

Perform administrative management tasks and responsibilities.

**SPECIFIC OUTCOME 4**

Describe the role of a supervisor and the challenges that this position holds.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Identify and control common pests in the horticultural environment*

SAQA US ID	UNIT STANDARD TITLE		
264236	Identify and control common pests in the horticultural environment		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Identify the various sources of plant damage.

**SPECIFIC OUTCOME 2**

Describe the various plant care practices that may be utilised in an integrated pest control program and their specific benefits.

**SPECIFIC OUTCOME 3**

Describe the advantages of using preventative pest control as a proactive strategy within an integrated pest control program.

**SPECIFIC OUTCOME 4**

Indicate the different methods of cultural control and the manner in which they contribute in pest control.

**SPECIFIC OUTCOME 5**

Identify a selection of common pestilent insects that are found in the workplace.

**SPECIFIC OUTCOME 6**

Ensure that control chemicals are correctly selected and applied.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Supervise the maintenance of a turf cricket pitch and outfields*

SAQA US ID	UNIT STANDARD TITLE		
264237	Supervise the maintenance of a turf cricket pitch and outfields		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	8

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Monitor and maintain the principles and practices of health and safety in the cricket field maintenance environment.

**SPECIFIC OUTCOME 2**

Plan and supervise the maintenance of cricket pitches and practice nets.

**SPECIFIC OUTCOME 3**

Plan and supervise the maintenance of the cricket outfield.

**SPECIFIC OUTCOME 4**

Prepare turf cricket pitches and nets for local and first class games.

**SPECIFIC OUTCOME 5**

Supervise the maintenance of turf cricket pitches and nets during winter.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Utilise earthmoving equipment to excavate and shape a landscape***

SAQA US ID	UNIT STANDARD TITLE		
264238	Utilise earthmoving equipment to excavate and shape a landscape		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Identify the safety requirements for excavating and backfilling.

**SPECIFIC OUTCOME 2**

Perform hand excavation on a landscape construction site.

**SPECIFIC OUTCOME 3**

Excavate an area utilising earthmoving machinery.

**SPECIFIC OUTCOME 4**

Protect excavated areas to prevent injury to others.

**SPECIFIC OUTCOME 5**

Backfill and compact excavated areas with earthmoving machinery.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Care for plants that require specific treatment or conditions in landscapes***

SAQA US ID	UNIT STANDARD TITLE		
264239	Care for plants that require specific treatment or conditions in landscapes		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	8

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Name plants that require special treatment and indicate their specific soil and/or climatic needs.

**SPECIFIC OUTCOME 2**

Identify a selection of plants that are generally difficult to grow and indicate the most suitable conditions for their optimum growth.

**SPECIFIC OUTCOME 3**

Distinguish the various plants that may grow in specific soil and climatic conditions with regards to the various geographical and local areas in South Africa.

**SPECIFIC OUTCOME 4**

Improve the growing conditions of plants that require specific treatment or conditions.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Establish and manage a composting plant*

SAQA US ID	UNIT STANDARD TITLE		
264240	Establish and manage a composting plant		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Conduct a feasibility study for the possible location of a composting plant

**SPECIFIC OUTCOME 2**

Describe the health and safety requirements for a composting plant.

**SPECIFIC OUTCOME 3**

Monitor and manage the environment on a composting site to ensure that all forms of pollution are avoided.

**SPECIFIC OUTCOME 4**

Collect and prepare the organic material for composting.

**SPECIFIC OUTCOME 5**

Monitor the decomposition process and regulate the watering and turning activities until the compost is complete.

**SPECIFIC OUTCOME 6**

Prepare the compost for sale/use.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Identify the internal structures of ornamental plants*

SAQA US ID	UNIT STANDARD TITLE		
264241	Identify the internal structures of ornamental plants		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the root structures.

**SPECIFIC OUTCOME 2**

Describe stem structures.

**SPECIFIC OUTCOME 3**

Describe leaf structures.

**SPECIFIC OUTCOME 4**

Describe flowers.

**SPECIFIC OUTCOME 5**

Describe seeds.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Arrange and install a plant decoration*

SAQA US ID	UNIT STANDARD TITLE		
264254	Arrange and install a plant decoration		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Ensure that personnel adhere to the appropriate health and safety procedures.

**SPECIFIC OUTCOME 2**

Undertake the installation of a decoration with the assistance of workers.

**SPECIFIC OUTCOME 3**

Supervise the dismantling of a decoration according to the workplace procedures.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Mow and de-thatch grassed areas*

SAQA US ID	UNIT STANDARD TITLE		
264255	Mow and de-thatch grassed areas		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Implement and monitor safety procedures in the workplace.

**SPECIFIC OUTCOME 2**

Monitor and maintain the quality of mowing to the prescribed standards.

**SPECIFIC OUTCOME 3**

Monitor the effectiveness of the scarifying and de-thatching operations to minimise the build-up of thatch in turfgrass.

**SPECIFIC OUTCOME 4**

Monitor the preventative maintenance tasks that are carried out on the mowers and de-thatching machinery.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Prune shrubs and other ornamental plants*

SAQA US ID		UNIT STANDARD TITLE	
264257		Prune shrubs and other ornamental plants	
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Assess the pruning needs of ornamental plants and shrubs.

**SPECIFIC OUTCOME 2**

Prune ornamental shrubs that flower on the new season's growth.

**SPECIFIC OUTCOME 3**

Prune shrubs.

**SPECIFIC OUTCOME 4**

Prune shrubs and trees that produce flowers on their spurs.

**SPECIFIC OUTCOME 5**

Use specialist pruning techniques on ornamental shrubs and trees.

**SPECIFIC OUTCOME 6**

Prune climbing roses.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Identify and correct nutrient deficiencies in ornamental plants*

SAQA US ID	UNIT STANDARD TITLE		
264258	Identify and correct nutrient deficiencies in ornamental plants		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Describe the factors that affect the availability of macro elements for plants.

**SPECIFIC OUTCOME 2**

Identify the macronutrients used by plants and the contributions that they each make to ensure the optimum growth in ornamental plants.

**SPECIFIC OUTCOME 3**

Describe Nitrogen deficiency.

**SPECIFIC OUTCOME 4**

Describe the signs that plants exhibit when the soil has a Phosphorus deficiency, the effects this has on the plants and the fertilisers that can be applied to restore the balance.

**SPECIFIC OUTCOME 5**

Describe Potassium deficiency.

**SPECIFIC OUTCOME 6**

Describe the signs that plants exhibit when the soil has a deficiency in one of the lesser macro-nutrients and the fertilisers that can be applied to restore the nutrient balance.

**SPECIFIC OUTCOME 7**

Describe the constituents of general fertilisers and the benefits of using this type of nutrient.

**SPECIFIC OUTCOME 8**

Indicate the practices that must be implemented to ensure that the correct balance of nutrients is maintained.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Identify a range of ornamental plants used in the horticultural industry*

SAQA US ID		UNIT STANDARD TITLE	
264259		Identify a range of ornamental plants used in the horticultural industry	
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	10

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Describe the characteristics and growth requirements of annual bedding plants that are commonly used in horticulture.

**SPECIFIC OUTCOME 2**

Describe the characteristics and growth requirements of herbaceous plants that are commonly used in horticulture.

**SPECIFIC OUTCOME 3**

Describe the characteristics and growth requirements of ground covers that are commonly used in horticulture.

**SPECIFIC OUTCOME 4**

Describe the characteristics and growth requirements of climbing plants that are commonly used in horticulture.

**SPECIFIC OUTCOME 5**

Describe the characteristics and growth requirements of shrubs that are commonly used in horticulture.

**SPECIFIC OUTCOME 6**

Describe the characteristics and growth requirements of trees that are commonly used in horticulture.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Apply biological and chemical control of alien invader plants.*

SAQA US ID	UNIT STANDARD TITLE		
264274	Apply biological and chemical control of alien invader plants.		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	5

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Utilise the necessary health and safety practices when conducting the chemical control of alien invader plants.

**SPECIFIC OUTCOME 2**

Identify at least 20 alien invader plants that are problematic in the region and examples of indigenous plants that may be used to replace the aliens.

**SPECIFIC OUTCOME 3**

Conduct the biological control of alien invader plants.

**SPECIFIC OUTCOME 4**

Describe the various types of herbicides that may be used to control alien invader plants.

**SPECIFIC OUTCOME 5**

Prepare the herbicide solution and apply this to the selected alien invaders.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

ID	QUALIFICATION TITLE	LEVEL
Core 66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Maintain bowling greens*

SAQA US ID	UNIT STANDARD TITLE		
264295	Maintain bowling greens		
ORIGINATOR		PROVIDER	
SGB Ornamental Horticulture and Landscape			
FIELD		SUBFIELD	
1 - Agriculture and Nature Conservation		Horticulture	
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	10

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Manage the use of the bowling green in order to maintain the optimum playing conditions and to minimise the amount of wear.

**SPECIFIC OUTCOME 2**

Monitor and manage the workshop and stores to maintain good housekeeping standards.

**SPECIFIC OUTCOME 3**

Service and maintain mowers and other grass cutting equipment to ensure a good playing surface.

**SPECIFIC OUTCOME 4**

Select the most suitable mowing or turf care practice to ensure that the bowling green has a consistently good playing surface.

**SPECIFIC OUTCOME 5**

Identify pests that are commonly found on bowling greens and select the appropriate strategy to control these.

**SPECIFIC OUTCOME 6**

Prepare the bowling green for play (league, provincial/national competitions).

**SPECIFIC OUTCOME 7**

Apply the appropriate fertilisers to the bowling greens to achieve the optimum turf conditions.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Apply spring treatment to bowling greens***

SAQA US ID	UNIT STANDARD TITLE		
264314	Apply spring treatment to bowling greens		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Prepare a bowling green for spring treatment.

**SPECIFIC OUTCOME 2**

Scarify a bowling green.

**SPECIFIC OUTCOME 3**

Aerate a bowling green with a hollow tyner to reduce compaction.

**SPECIFIC OUTCOME 4**

Screed and level the top dressing on a bowling green.

**SPECIFIC OUTCOME 5**

Provide primary turf care to the green during the spring treatment period.

**SPECIFIC OUTCOME 6**

Prepare the green for the opening of a new season.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Transplant and establish trees and shrubs in horticultural areas*

SAQA US ID	UNIT STANDARD TITLE		
264315	Transplant and establish trees and shrubs in horticultural areas		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 4	6

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Prepare trees and shrubs for transplanting.

**SPECIFIC OUTCOME 2**

Plan the process and ensure that the correct procedures are followed for the re-establishment of trees and shrubs in various landscape situations.

**SPECIFIC OUTCOME 3**

Lift trees and shrubs and protect these while being moved and in transit.

**SPECIFIC OUTCOME 4**

Replant trees or shrubs and ensure that the appropriate plant care regime is applied for optimum growth.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66649	National Certificate in Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**QUALIFICATION:**  
**National Certificate: Landscape irrigation**

SAQA QUAL ID	QUALIFICATION TITLE		
66429	National Certificate: Landscape irrigation		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
QUALIFICATION TYPE	FIELD	SUBFIELD	
National Certificate	1 - Agriculture and Nature Conservation	Horticulture	
ABET BAND	MINIMUM CREDITS	NQF LEVEL	QUAL CLASS
Undefined	120	Level 2	Regular-Unit Stds Based

***This qualification does not replace any other qualification and is not replaced by another qualification.***

**PURPOSE AND RATIONALE OF THE QUALIFICATION**

**Purpose:**

This qualification provides learners with a comprehensive base of portable skills that will enable them to progress within all spheres of the horticultural industry. This qualification forms an integral step in the career paths of the various disciplines in ornamental horticulture and follows on from the Level 1 Certificate. For those already employed in the industry, this qualification will offer learners the opportunity to hone their skills and receive recognition for their competencies.

A Learner achieving this qualification will be able to work effectively and productively within the field of irrigation knowing how to:

- Apply the health and safety principles in the horticultural industry specifically as they relate to irrigation.
- Provide water to plants in the landscape according to a schedule and ensuring the quality of water remains suitable and according to requirements of the horticultural environment.
- Install, operate and maintain irrigation systems including the monitoring thereof.

For those wishing to enter the industry, whether unemployed or as an Entrepreneur, this qualification offers a solid foundation in all aspects of the horticultural industry. This qualification represents a vital step in the development of a career and learning pathway of individuals, both from a vocational point of view, as well as from a learning point of view.

**Rationale:**

South Africa is essentially a dry country and water is therefore a critical resource that requires careful management. Considering that the horticultural industry cannot survive without the application of water, it is vital that the workforce in this industry are well trained to understand the importance of careful planning, correct installation, efficient operation and ongoing and consistence maintenance of the irrigation systems.

The fact that South Africa will host the 2010 World Cup Soccer tournament means that sport fields will need to comply to the best international standards and will therefore require ongoing

quality maintenance leading up to and during the tournament, as well as thereafter. To achieve this, the quality of the irrigation systems installed need to be top class.

Through this qualification, the learner will become conversant with the implications that a lack of attention to planning, installation, operation and maintenance will have on the performance of an irrigation system, and on the availability and cost of wasted water. The impact on the environment will also be understood.

The qualification will facilitate job creation and self employment opportunities, while furthering the aims of economic empowerment in South Africa.

The qualification includes the skills necessary to apply safety principles in all aspects of working with irrigation systems, the skills needed to install, use, operate and maintain the irrigation systems, as well as understanding the importance of scheduling the application and rate of watering to the horticultural environment while considering the impact on the environment itself.

As the qualification is based on the common core of the preceding Level 1 qualification, it embodies the principle of portability and is integral to further learning, despite its focus being on the more specialised field of irrigation. Through the wide scope of electives, the specialisations of the various sectors are catered for.

The sectors of the horticultural industry that will benefit from this qualification include:

- Landscape construction and maintenance.
- Amenity horticulture.
- Sports turf.
- Plant propagation.
- Interior plantscaping.
- Retail nurseries.

This qualification addresses both the current and future needs of horticulture in South Africa.

#### **RECOGNIZE PREVIOUS LEARNING?**

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#### **LEARNING ASSUMED IN PLACE**

The industry will encourage potential Learners to embark on this qualification as it has universal relevance to the industry and is nationally recognized. Learners who would like to access this qualification should have demonstrated competency in:

- Literacy and Numeracy at NQF Level 1.
- ID 119687: Demonstrate a basic understanding of the horticultural industry.

Recognition of Prior Learning:

The qualification may be achieved wholly or in part through the Recognition of Prior Learning and the qualification may be granted to learners who have acquired the skills and knowledge without attending formal courses providing they can demonstrate competence in the outcomes of the individual Unit Standards as required by the Fundamental, Core and Elective areas stipulated in the Qualification and by the Exit Level Outcomes

An RPL process may also be used to credit learners with Unit Standards in which they have developed the necessary competency as a result of workplace and experiential learning.

#### **QUALIFICATION RULES**



The certificate is made up of a planned combination of learning outcomes that have a defined purpose and will provide qualifying learners with applied competence and a foundation for further learning.

The qualification consists of a minimum of 120 credits, composed of:

- Fundamental: 36 credits (compulsory).
- Core: 64 credits (compulsory).
- Electives: Learners must choose suitable Unit Standards from the listed elective to obtain a total of not less than 20 credits.

#### **EXIT LEVEL OUTCOMES**

1. Operate a manual irrigation system and schedule the applications to suit the plants water requirements.
2. Identify the various types of piping used in irrigation and install these in an irrigation system.
3. Utilise the appropriate sprinkler to provide the optimum watering to suit the planted area.
4. Utilise manual and automatic control valves to operate an irrigation system.
5. Utilise manual and automatic controlled filters to ensure that sprinklers are able to operate at their best.

#### **ASSOCIATED ASSESSMENT CRITERIA**

Associated Assessment Criteria for Exit Level Outcome 1:

- 1.1 Watering frequencies for various plants are determined in relation to prevailing climatic conditions.
- 1.2 Operating periods for the various zones of an irrigation system are selected to ensure that applications suit the plant's requirements and the soil's infiltration rate.
- 1.3 Basic maintenance procedures and techniques are utilised to effect minor repairs to irrigation equipment.

Associated Assessment Criteria for Exit Level Outcome 2:

- 2.1 The basic principles of hydraulics are described in terms of their application in irrigation systems.
- 2.2 The distinction between the various classes of irrigation piping are explained with regard to their pressure ratings.
- 2.3 The characteristics of the different types of high pressure piping are described within the context of their use in irrigation mainlines.
- 2.4 The characteristics of the different types of low pressure piping are described within the context of their use in irrigation spraylines.
- 2.5 The fittings used to connect the various types of piping are identified and the techniques to install these are demonstrated on different irrigation equipment.

Associated Assessment Criteria for Exit Level Outcome 3:

- 3.1 The unique characteristics of drippers are described in terms of their low pressure requirements and suitability for small areas in landscaping.
- 3.2 The features and benefits of cone sprays are explained with regard to their fine droplets and suitability for flowerbeds.
- 3.3 The operating characteristics of rotary sprinklers are explained with regard to their efficient coverage of large areas and suitability for lawns.

3.4 The techniques to install the various types of sprinklers are demonstrated in a typical landscape.

Associated Assessment Criteria for Exit Level Outcome 4:

- 4.1 The characteristics of the different hand operated valves are described in relation to the ease of operation and suitability for a sprayline or for isolation.
- 4.2 The function of a footvalve and a non return valve are explained within the context of preventing a backflow in various irrigation and pump systems.
- 4.3 The importance of installing a pressure reducing valve on a high pressure feed is explained in terms of the protection it gives to the various irrigation pipes and equipment.
- 4.4 The function of air release valves and vacuum breakers is described in relation to the purging of air from irrigation mainlines.
- 4.5 The many uses that a solenoid valve may perform in an irrigation system are described in terms of the automatic control of sprinkler spraylines reservoir filling.

Associated Assessment Criteria for Exit Level Outcome 5:

- 5.1 The necessity of having a filter element that suits the required water quality is explained in terms of the application of the relevant selection criteria.
- 5.2 The advantages of using a self flushing filter system are explained in regard to the ability to automatically flush the filters before they become dirty.
- 5.3 The importance of correctly positioning the filters in the irrigation system is explained in terms of the ease of maintenance.
- 5.4 The need to install pressure gauges on either side of a filter is explained in terms of monitoring the pressure differential between the inlet and outlet of the filter the objectives.

Integrated Assessment:

The integrated assessment allows the Learners the opportunity to show that they are able to utilize concepts, ideas and actions across unit standards. This will allow Learners to achieve competency that is in keeping with the purpose of the qualification.

An integrated assessment will indicate how theoretical learning is demonstrated in a practical environment in such a way that the application of the work learnt becomes second nature.

In conducting an assessment, the quality of the performance must also be evaluated i.e. both the performance and the thinking behind the action must be qualitative.

The assessment should include both formative and summative options and should use various assessment tools i.e. not by observation only. It is suggested that a Portfolio of Assessment form part of the summative assessment, with practical outcomes being demonstrated in a simulated or real work place situation.

A broad range of task-orientated and theoretical tools may be used, with the distinction between practical knowledge and disciplinary knowledge being maintained.

Unit Standards in the qualification must be used to assess the specific and Critical Cross Field Outcomes. It is recommended that the assessment tools give Learners the opportunity to account for their decision-making and problem solving in line with the Specific Outcomes and related Assessment Criteria.

As a result of this qualification being generic in forming the foundation for a career in horticulture, Learners should be assessed in occupational contexts and activities. The assessment should ensure that the foundational skills are portable and prepare them for further learning, whatever career path they may choose.

**INTERNATIONAL COMPARABILITY**

South Africa is essentially a dry country and water is therefore a critical resource that requires careful management. In this regard the South African irrigation industry, governed by the Landscape Irrigation Association (LIA) and the South African Agricultural Irrigation Institute (SAAII). These bodies are responsible for ensuring that the standards of planning, installation, operation and maintenance of the irrigation systems in the horticultural and agricultural environments are set and maintained to world class standards.

The landscape irrigation industry has links to the major international irrigation bodies such as the IA (Irrigation Association) of the United States and information is regularly shared. This ensures that the South African landscape irrigation industry remains at the forefront of international developments. In terms of climate, Australia has similar climatic zones and conditions to South Africa. Their landscape irrigation industry is well advanced and specialisation is conducted from level 1. In contrast, other countries have elected to begin their specialisations at NQF Levels 2 or NQF Level 3.

Various factors influence this, the most notable include:

- Adverse climatic conditions which restrict normal horticultural activities.
- Economic constraints, typically the poorly developed economies where horticulture has a low priority.
- Relatively small markets, where economies of scale preclude specialisation.

To obtain an African perspective the qualifications of the following SADC countries were investigated: Angola, Botswana, DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, Swaziland, Tanzania, Zambia and Zimbabwe.

From a global viewpoint these countries are typified as developing nations, with a primary focus on subsistence. Consequently agricultural training is paramount to ensuring food security for their populations and as a result the areas landscape irrigation systems are few, with the majority occurring in the hotel and tourist destinations. These systems are usually contracted to South African irrigation companies. As a consequence no specific landscape irrigation training is conducted in these areas. Their staff who maintain these landscapes are either sourced from South Africa or they obtain their training from the LIA or our tertiary institutions.

Specialisations such as pumps and pump maintenance are catered for in the elective unit standards of these qualifications. This ensures portability and yet allows learners to progress in their particular field of specialisation from level 3 for most sectors of the industry, but from level 2 with respect to irrigation.

Various international qualifications with similar content to this qualification were sourced. In examining these, the following have been used for comparison, although they do not necessarily address the subjects from the same perspective, they do contain aspects relevant to those used in South Africa. The following qualifications and the particular unit standards that were selected for comparison with various components of this qualification are listed hereunder.

Australia:

The landscape and horticultural industry in Australia has a similar profile to that of South Africa and their irrigation industry operates at a similar level to that in South Africa, evidenced by the fact that specialisations in a specific field occurs at an entry level.

Certificate II in Irrigation: Reference No RTE20203 Of all the worldwide searches that were conducted, this level 2 qualification has the greatest similarity to its South African counterpart. The relevant unit standards are as follows:

Reference No RTE2602A-Assist with the operation of pressurised irrigation systems:

- This level 2 unit standard is concerned with the operation of sprinkler and emitter irrigation that is commonly used in the plant propagation and landscaping environments.
- The "Utilize irrigation equipment and operate manual sprinkler systems" unit standard incorporates a similar approach to the above with an emphasis on water conservation and preventative maintenance procedure.

Reference No RTE2603A-Lay irrigation and/or drainage pipes:

- This level 2 unit standard covers the techniques and procedures used in the installation of piping in a horticultural environment.
- The "Install irrigation piping in landscaped areas" unit standard follows similar principles and practices with the above with the exception of drainage piping, which is usually regarded as being part of the site preparation that occurs prior to an irrigation installation.

Reference No RTE2606A-Maintain pressurised irrigation systems:

- This level 2 unit standard covers the maintenance for an irrigation system. It focuses on the repair and replacement of basic, simple components under routine supervision. It also requires that records and reports of maintenance observations and activities are completed.
- The "Maintain landscape and sports turf irrigation systems" unit standard in essence, follows the same procedures and methodology, but includes the drafting of an annual irrigation schedule.

United Kingdom:

There are Unit Standards available at level 3 covering Automatic Turf Irrigation System but not at level 2. Short practical courses are offered by the various irrigation product distributors.

New Zealand:

There is only one Unit Standard "Demonstrate knowledge of irrigation systems used in horticulture" which is registered at level 2. It serves to give an overview of the various methods used in watering plants, but it does not give the detail knowledge which the National Certificate Landscape Irrigation seeks to address.

Scotland:

No irrigation or comparable horticultural one year certificates were found in the Scottish qualifications framework that. To address their needs, short courses in landscape irrigation are conducted.

#### **ARTICULATION OPTIONS**

Horizontal Articulation:

- ID 48975: National Certificate: Plant Production.
- ID 59389: National Certificate: Resource Guardianship..
- ID 49410: National Certificate: Construction..

Vertical Articulation:

- ID 49052: National Certificate: Plant Production.

#### **MODERATION OPTIONS**

- Anyone assessing a learner against these unit standards must be registered as an assessor with the relevant ETQA and have experience or in depth knowledge of the horticultural industry.
- Any institution offering learning that will enable achievement of these unit standards or will assess these unit standards must be accredited as a provider with the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the qualification and the agreed ETQA procedure.
- Therefore anyone wishing to be assessed against these unit standards may apply to be assessed by any assessment agency, assessor or provider institution which is accredited by the relevant ETQA.

#### CRITERIA FOR THE REGISTRATION OF ASSESSORS

Assessors must:

- Be accredited as an assessor by the relevant ETQA.
- Have experience or in depth knowledge of the horticultural industry, specifically as it relates to ornamental aspects.
- Meet any other requirements that may be stipulated by the relevant ETQA.
- Hold a qualification in Horticulture or Agriculture at NQF Level 5 or higher.

#### UNIT STANDARDS

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Fundamental	115000	Demonstrate understanding of everyday aural texts in X	Level 2	4
Fundamental	7480	Demonstrate understanding of rational and irrational numbers and number systems	Level 2	3
Fundamental	114998	Demonstrate understanding of selected texts in X	Level 2	6
Fundamental	9008	Identify, describe, compare, classify, explore shape and motion in 2-and 3-dimensional shapes in different contexts	Level 2	3
Fundamental	12444	Measure, estimate and calculate physical quantities and explore, describe and represent geometrical relationships in 2-dimensions in different life or workplace contexts	Level 2	3
Fundamental	114999	Speak and respond in everyday situations in X	Level 2	6
Fundamental	7469	Use mathematics to investigate and monitor the financial aspects of personal and community life	Level 2	2
Fundamental	9007	Work with a range of patterns and functions and solve problems	Level 2	5
Fundamental	114993	Write texts on relevant topics in X	Level 2	4
Core	119714	Demonstrate an understanding of the role and requirements of water in plants	Level 1	3
Core	119691	Backfill compact and replant grass sods and plants in irrigation trenches	Level 2	5
Core	119701	Create an awareness of environmental protection	Level 2	4
Core	119699	Excavate irrigation trenches in established landscapes	Level 2	5
Core	264040	Install automatic and manual control valves in an irrigation system	Level 2	12
Core	119700	Install irrigation piping in trenches	Level 2	10
Core	264036	Install irrigation sprinklers and emitters in landscaped areas	Level 2	12
Core	264039	Install manual and automatic filters for an irrigation system	Level 2	4
Core	263995	Schedule the application of water to plants and landscapes	Level 2	3
Core	264058	Utilise health and safety principles in horticulture	Level 2	3
Core	264017	Utilize irrigation equipment and operate manual sprinkler systems	Level 2	3
Elective	116077	Monitor water quality	Level 2	3
Elective	116066	Operate and maintain specific irrigation systems	Level 2	3
Elective	254076	Demonstrate knowledge of hydraulics and flow measurement in water and wastewater systems	Level 3	12
Elective	260723	Install, test and maintain a basic fluid power system	Level 3	8

	ID	UNIT STANDARD TITLE	LEVEL	CREDITS
Elective	253391	Maintain centrifugal pumps	Level 3	14
Elective	264041	Maintain landscape and sportsturf irrigation systems	Level 3	8
Elective	253497	Maintain positive displacement pumps	Level 3	10
Elective	116212	Maintain water quality parameters	Level 3	2
Elective	116266	Monitor the operation and maintenance of irrigation systems	Level 3	3
Elective	254066	Operate a reticulation pump station	Level 3	10
Elective	11780	Understand and apply basic plumbing principles	Level 3	8

**LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION****None**



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

**UNIT STANDARD:*****Schedule the application of water to plants and landscapes***

SAQA US ID		UNIT STANDARD TITLE		
263995		Schedule the application of water to plants and landscapes		
ORIGINATOR		PROVIDER		
SGB Ornamental Horticulture and Landscape				
FIELD		SUBFIELD		
1 - Agriculture and Nature Conservation		Horticulture		
ABET BAND		UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined		Regular	Level 2	3

***This unit standard does not replace any other unit standard and is not replaced by another unit standard.***

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the factors that influence the depletion of water in soils.

**SPECIFIC OUTCOME 2**

Recognise the effects that the seasons have on evapotranspiration rates and the adjustments that must be made to watering schedules to cope with these demands.

**SPECIFIC OUTCOME 3**

Select the most appropriate climatic conditions and time of the day to schedule watering.

**SPECIFIC OUTCOME 4**

Adjust the watering schedule to cope with prevailing climatic conditions and rainfall.

**SPECIFIC OUTCOME 5**

Show an understanding of the importance of conducting frequent watering of seedlings and newly planted or transplanted plants.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>LEVEL</b>
Core	66429	National Certificate: Landscape irrigation	Level 2



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Utilize irrigation equipment and operate manual sprinkler systems*

SAQA US ID	UNIT STANDARD TITLE		
264017	Utilize irrigation equipment and operate manual sprinkler systems		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Select the appropriate watering equipment to apply water to select plants or a small planted area.

**SPECIFIC OUTCOME 2**

Select sprinklers that will apply the required amount of water and suit the planted area.

**SPECIFIC OUTCOME 3**

Operate an irrigation system to apply an even precipitation over a planted area.

**SPECIFIC OUTCOME 4**

Conduct basic maintenance of manual watering/irrigation equipment.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66429	National Certificate: Landscape irrigation	Level 2





## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Install irrigation sprinklers and emitters in landscaped areas*

SAQA US ID	UNIT STANDARD TITLE		
264036	Install irrigation sprinklers and emitters in landscaped areas		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	12

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Install and adjust cone sprinklers.

**SPECIFIC OUTCOME 2**

Describe the operation of bubblers and indicate the techniques to install and adjust these in the landscape.

**SPECIFIC OUTCOME 3**

Describe the operation of drippers and indicate the techniques to install these in the landscape.

**SPECIFIC OUTCOME 4**

Describe the operation of impact sprinklers and indicate the techniques that are used to install and adjust these to suit the planted areas.

**SPECIFIC OUTCOME 5**

Describe the operation of gear drive sprinklers and indicate the techniques to install and adjust these to suit the planted areas.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66429	National Certificate: Landscape irrigation	Level 2



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Install manual and automatic filters for an irrigation system*

SAQA US ID	UNIT STANDARD TITLE		
264039	Install manual and automatic filters for an irrigation system		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	4

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Describe the need for filtration.

**SPECIFIC OUTCOME 2**

Identify the various filter elements.

**SPECIFIC OUTCOME 3**

Describe the limitations of a manual filter and the advantages of using an automatic self flushing filter system.

**SPECIFIC OUTCOME 4**

Identify the most suitable positions to install a filter in an irrigation system or in a pumping plant and the valves that should be included.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66429	National Certificate: Landscape irrigation	Level 2



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Install automatic and manual control valves in an irrigation system*

SAQA US ID	UNIT STANDARD TITLE		
264040	Install automatic and manual control valves in an irrigation system		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	12

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Identify the various manually operated valves.

**SPECIFIC OUTCOME 2**

Identify the various direction control valves.

**SPECIFIC OUTCOME 3**

Describe the various types of air valves, their method of operation and the techniques to install them in an irrigation system.

**SPECIFIC OUTCOME 4**

Describe the various types of pressure control valves, their method of operation and the techniques to install them in an irrigation system.

**SPECIFIC OUTCOME 5**

Describe the various uses of a remote controlled solenoid valve, its method of operation and the techniques to install them in an irrigation system.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66429	National Certificate: Landscape irrigation	Level 2



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Maintain landscape and sportsturf irrigation systems*

SAQA US ID	UNIT STANDARD TITLE		
264041	Maintain landscape and sportsturf irrigation systems		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 3	8

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Conduct a preventative maintenance inspection on an irrigation controller.

**SPECIFIC OUTCOME 2**

Conduct preventative maintenance inspection and repair the irrigation pumping system.

**SPECIFIC OUTCOME 3**

Conduct preventative maintenance inspection and repair the solenoid valves.

**SPECIFIC OUTCOME 4**

Conduct preventative maintenance inspection and repair the sprinklers.

**SPECIFIC OUTCOME 5**

Maintain various types of underground piping and install an irrigation outlet.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Elective	66429	National Certificate: Landscape irrigation	Level 2
Elective	66649	National Certificate: Landscaping	Level 3



## SOUTH AFRICAN QUALIFICATIONS AUTHORITY

## UNIT STANDARD:

*Utilise health and safety principles in horticulture*

SAQA US ID	UNIT STANDARD TITLE		
264058	Utilise health and safety principles in horticulture		
ORIGINATOR	PROVIDER		
SGB Ornamental Horticulture and Landscape			
FIELD	SUBFIELD		
1 - Agriculture and Nature Conservation	Horticulture		
ABET BAND	UNIT STANDARD TYPE	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	3

*This unit standard does not replace any other unit standard and is not replaced by another unit standard.*

**SPECIFIC OUTCOME 1**

Demonstrate an understanding of the health and safety legislation that pertains to the horticultural industry.

**SPECIFIC OUTCOME 2**

Identify potential hazards in the workplace and indicate the correct procedures to follow for the prevention of a safety incident.

**SPECIFIC OUTCOME 3**

Indicate the safe operating practices that are essential for the prevention of a safety incident.

**SPECIFIC OUTCOME 4**

Describe the principles and practices that must be applied to ensure the safe use and storage of hazardous chemicals.

**SPECIFIC OUTCOME 5**

Explain the positive contribution that good housekeeping has on the maintenance of health and safety in the workplace.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD**

	ID	QUALIFICATION TITLE	LEVEL
Core	66429	National Certificate: Landscape irrigation	Level 2