

**SKILLS FRAMEWORK FOR LANDSCAPE  
TECHNICAL SKILLS AND COMPETENCIES (TSC) REFERENCE**

<b>TSC Category</b>	Landscape Engineering					
<b>TSC</b>	Landscape Drainage Management					
<b>TSC Description</b>	Manage drainage systems as part of landscape implementation and maintenance					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
	<b>LNS-GNM-1020-1.1</b>	<b>LNS-GNM-2020-1.1</b>	<b>LNS-GNM-3020-1.1</b>	<b>LNS-GNM-4020-1.1</b>		
	Assist with the installation and maintenance of drainage systems under supervision	Perform the installation and maintenance of drainage systems in accordance with specifications and guidelines	Monitor drainage systems installation and maintenance works to meet industry standards and specifications required	Establish installation and maintenance programmes and guidelines for drainage systems to meet landscape requirements		
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>Common types of drainage systems</li> <li>Common tools and equipment for drainage systems installation and maintenance</li> <li>Common problems occurring with drainage systems</li> <li>Personal protective equipment (PPE) required for maintenance of drainage systems</li> <li>Relevant workplace safety and health (WSH) guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Common types of drainage systems and their components and elements</li> <li>Situations where drainage systems may be required</li> <li>Tools and equipment for the installation and maintenance of drainage systems</li> <li>Common problems occurring with drainage systems</li> <li>Drainage system installation, maintenance and cleaning procedures</li> <li>Personal protective equipment (PPE) required for maintenance of drainage systems</li> <li>Relevant workplace safety and health (WSH) guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Purpose of different types of drainage systems</li> <li>Tools and equipment for the installation and maintenance of drainage systems</li> <li>Methods to mark out area for construction of drainage systems</li> <li>Earthworks and trenching for drainage</li> <li>Regulatory requirements regarding the environment during work</li> <li>Personal protective equipment (PPE) required for maintenance of drainage systems</li> <li>Relevant workplace safety and health (WSH) guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Management purposes of current and upcoming drainage systems</li> <li>Elements and components of drainage systems and drain materials</li> <li>Steps in designing drainage systems and monitoring systems</li> <li>Drainage installation and maintenance processes</li> <li>Site analysis</li> <li>Steps in finishing off of works and the commissioning schedules</li> <li>Relevant workplace safety and health (WSH) guidelines</li> </ul>		
<b>Abilities</b>	<ul style="list-style-type: none"> <li>Wear appropriate PPE before commencement of maintenance work</li> <li>Utilise tools and equipment appropriate for the drainage installation and maintenance tasks</li> <li>Dig trenches or holes for drainage using hand tools under supervision</li> </ul>	<ul style="list-style-type: none"> <li>Wear appropriate PPE before commencement of maintenance work</li> <li>Identify the tools and equipment required for drainage installation and maintenance</li> <li>Install drainage systems in accordance with specifications and safety guidelines</li> </ul>	<ul style="list-style-type: none"> <li>Identify a range of drainage systems applicable to a variety of site needs in order to select the most applicable drainage system for a specific site</li> <li>Verify tools and equipment required for drainage installation and maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Lead the research in drainage systems to provide new solutions to meet challenges</li> <li>Assess the soil profile, ground water, obstacle, structural impediments and other factors of the site to determine the drainage and storage systems to be installed</li> </ul>		

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	<p>and in accordance with safety requirements</p> <ul style="list-style-type: none"> <li>• Dispose of surplus materials and reinstate the site</li> <li>• Assist in the simple maintenance of drainage systems to cover leaks and remove blockages under supervision and in accordance with safety requirements</li> <li>• Report visible problems with the drainage system</li> <li>• Execute simple cleaning and storing of tools and equipment after use under supervision</li> <li>• Adhere to relevant WSH guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Identify the cause of common problems that occur with drainage systems to resolve them</li> <li>• Inspect drainage systems for leaks, operating faults and blockages</li> <li>• Perform drainage systems check and maintenance in accordance with schedules and guidelines</li> <li>• Assist in the testing of drainage systems in accordance with safety guidelines</li> <li>• Record all observations of the drainage systems for reporting</li> <li>• Adhere to relevant WSH guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Measure and mark out drainage lines in accordance with specifications</li> <li>• Monitor drainage systems installation works by supervising work team and coordinating with contractors</li> <li>• Test and secure drainage components and joints in accordance with specifications</li> <li>• Test that the configuration, flow rates and capacity of drainage system meets the specifications</li> <li>• Report any problems that cannot be resolved to manager and/or drainage designer</li> <li>• Lead adherence to relevant WSH guidelines</li> </ul>	<ul style="list-style-type: none"> <li>• Establish construction works and specifications to manage water drainage in accordance with industry standards</li> <li>• Lead the inspection and testing works of drainage systems for commissioning and handover</li> <li>• Establish drainage systems maintenance programmes to ensure systems operate efficiently</li> <li>• Lead the management of drainage audits in accordance with industry standards</li> <li>• Provide solutions to problems found in the installation and maintenance of drainage systems</li> <li>• Enforce adherence to relevant WSH guidelines</li> </ul>		
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