

Standards and Assessment Guide

Landscape Gardening

Introduction

Welcome to the Standards and Assessment Guide (SAG), a comprehensive resource designed to support excellence in assessment practices for all skills competitions hosted at the WorldSkills Competition. A key component of the SAG is the commitment to continuous improvement through ongoing review, ensuring that these guides consistently reflect the latest industry innovations and high standards of assessment in an open and transparent manner.

Purpose

The primary purpose of this guide is to provide a structured framework for the consistent and fair assessment of each skill competition. It aims to ensure that all assessments are conducted with a high degree of accuracy, reliability, validity, and reflect global industry standards. By adhering to these guidelines, assessors can maintain the integrity of the competition and uphold the high standards associated with WorldSkills.

Note: this guide is not a replacement for the Marking Scheme and should only be used as a reference when required during the assessment process. Competitors are not allowed to have a copy of this SAG in the workshop in either digital or paper form.

Scope

This document covers general assessment practices applicable to a diverse range of industry sectors including:

- Manufacturing and Engineering Technology
- Information and Communication Technology
- Construction and Building Technology
- Transportation and Logistics
- Social and Personal Services
- Creative Arts and Fashion

Each skill competition has its unique requirements and benchmarks, which are detailed within sections of this guide. The consistency of assessment across each skill is the overarching principle, ensuring a unified approach to evaluating Competitor performance to the highest standards.

Key Components

The guide is structured into several key components, each addressing critical aspects of the assessment process:

Assessment Principles and Objectives

- Emphasis on fairness, transparency, and objectivity in assessments.
- Alignment with global industry standards and best practices.

Assessment Methods and Tools

- Description of various assessment methods in Measurement and Judgement.
- Guidance on the application of appropriate assessment tools and equipment (if applicable).

Criteria and Benchmarks

- Examples of assessment criteria and aspects for each skill, outlining the expected competencies and performance standards.
- Benchmarks for different levels of proficiency i.e. Judgement award range 0, 1, 2, 3 or Yes/No criteria alongside clear measurable descriptors.

Expert assessment requirements

- Completion of the Access Programme.
- Approved Curriculum Vitae (CV).
- Reaching **100%** Expert preparedness.
- Full participation of online and in-person Mandatory Assessment Training (MAT).
- Completion of practical assessment testing at the Competition.

Quality Assurance and Improvement

- Monitoring and evaluation: Ensuring assessments are carried out correctly and produce reliable results.
- Continuous improvement: Using feedback from Experts and Skill Competition Managers to enhance future assessments.
- Periodic review: Regularly updating processes to reflect current industry and WorldSkills standards.

Implementation

For effective implementation, this guide should be used for guidance purposes only and in parallel with the Technical Description for each skill. Experts are encouraged to familiarize themselves thoroughly with both the general guidelines and the particular requirements of their respective skill areas. Collaborative efforts between the Skill Management Team, Experts, and Competitors are vital for achieving the ultimate goal of global skills development.

Conclusion

The Standards and Assessment Guide embodies the commitment of the WorldSkills movement to nurturing talent and promoting the highest standards of vocational education and training worldwide. By providing clear and comprehensive guidance, we aim to empower Experts to conduct marking and assessment practices that are not only rigorous and equitable but also inspiring and transformative for all participants.

Thank you for your dedication to upholding these standards and contributing to the success of the WorldSkills Competition. Together, we can continue to champion skills excellence and celebrate the achievements of talented individuals from around the globe.

Skill 37 – Landscape Gardening

Measurement

In the Landscape Gardening skill competition, we will measure with various tools:

- Heights: with a Total Station (external Team and Expert group).
- Distances: with Total Station or a measuring tape (external Team and Expert group).
- Horizontal and vertical: with Total Station or with a (digital) spirit level.
- Flatness: with a long spirit level or with the Total Station.
- In some cases, it can be decided to measure horizontal lines with the Total Station.
- Other tools: angle, aluminium bar, cord, spacer plate, etc.

A measuring team consists of:

- Total 4 Experts (3 Experts and 1 Supervisor).
- **Note 1:** If an external measurement team performs the measurements, the responsible Experts will have to supervise whether this is being carried out according to instructions
- **Note 2:** The reserve Expert cannot do other activities during the measurements for which they are assigned. They must also supervise the correctness of implementation.

SLOPE MEASUREMENT

The quickest and most accurate tool for measuring slope is a digital spirit level. For different parts of the test project, spirit levels in different lengths can be used. Measurement can be the difference in mm or the slope in percentage.



Digital

OR



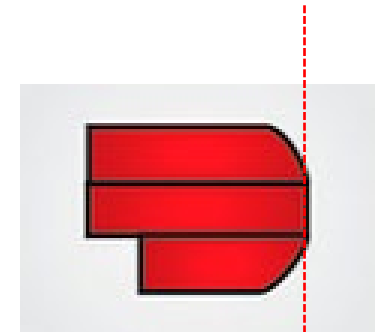


A traditional, simple and inexpensive method of checking verticality is the use of a hanging line (plum bob). Then we check the parallel running with the string, but this method seems to be replaced at the moment (except in the case of projecting the vertical point) by the use of digital spirit levels.

LENGTH (DISTANCE) MEASUREMENT

Length measurement can be done with digital or traditional devices. We usually use digital devices (laser or ultrasonic distance meters) to measure long distances in the field, typically measuring tapes and folding rulers are used to measure shorter sections.

The **millimetre**-accurate reading on the measuring tape can be assisted by a masonry trowel attached to the surface.



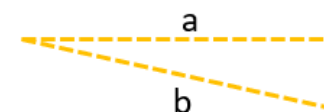
Due to the expectation of measurement accuracy, we use high quality tape measures for measuring. During the measurement the tape measure should be held well anchored, horizontal/vertical and straight. Always measure the material itself, never the gap between the edges.



The positioning of the measuring tape must be carefully observed when carrying out the measurement.



Measurements with big differences of height



$A \neq b$

The measurement of an organic material - like a trunk or stone is measured at soil level, on the most prominent part of the trunk or stone.



HEIGHT (LEVEL) MEASUREMENT:

The fastest and most accurate tool for height measurement in garden construction is the rotary laser. When using this device, we look for a place for the instrument foot outside the work area, and the height of the projected laser is positioned below or above eye level. After that, a relative 0 point is taken in the area by adjusting and fixing the length of the ruler. Then, the height data is read on the scale of the measuring bar by capturing the signal of the sliding sensor head. (During the Competition we will use the total station operated by an external team).



It may happen that someone accidentally touches the instrument's tripod. In this case, please make sure you inform us immediately, both during the test and during the assessment.

MEASUREMENT OF RIGHT ANGLE (PERPENDICULARITY):

The inspection is carried out with right angles of different sizes, depending on the size of the built element. The deviation from the right angle (perpendicular) can be checked with a measuring wedge.

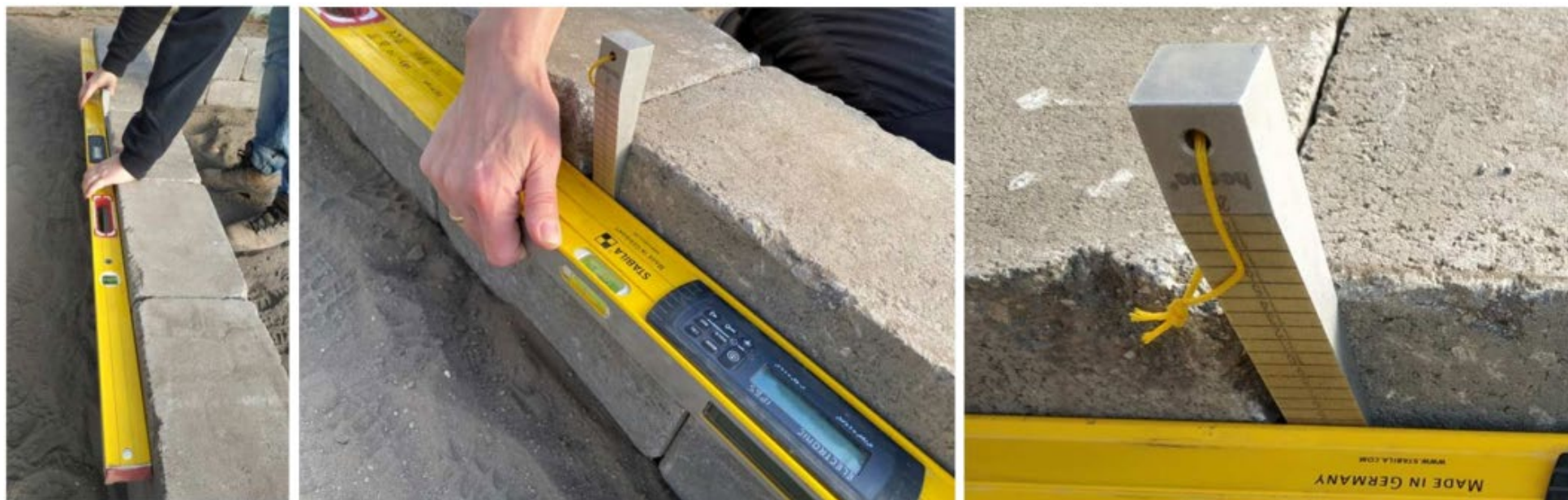


Another piece of equipment that can be used is a digital square. For right angles (winkles), a digital provides more accurate and faster angle data.



MEASUREMENT OF SURFACE FLATNESS:

In the case of masonry, the straightness of the wall section is decisive, the accuracy of which is checked by leaning a long (e.g. 2m) spirit level against the wall and measuring the exposed gaps with a measuring wedge.



Judgement

Judgement is used to assess the quality of performance about which there may be small differences of view when applying the external benchmarks.

The Resources column in the table below may include all kinds/formats of resources such as: a link to a YouTube video, a website link, an illustration, a photo, a reference to a book, and so on. It needs to be as detailed as possible to show the differentiation between 0, 1, 2, 3.

Generic rules:

The assessment group comprises three Experts plus one Expert who acts as the supervisor. The supervising Expert will replace an Expert in the marking group to prevent compatriot marking.

The difference of the three Experts' scores may not exceed 1. If this is the situation the Experts must re-score until there is a maximum difference of 1. As long as the three Experts judge within 1, the result can be entered into the CIS.

The total marks allocated to judgement marking may vary from competition to competition depending on the Test Project.

The 0-3 scale to indicate:

- 0: performance below industry standard
- 1: performance meets industry standard
- 2: performance meets and, in specific respects, exceeds industry standard
- 3: performance wholly exceeds industry standard and is judged as excellent

To exemplify some criteria, we are using augmented reality, in addition to photos and descriptions.



Augmented reality (AR) integrates virtual elements into the real world, allowing the user to perceive them through electronic devices. To adapt and improve aspects according to industry standards, we developed a 3D model that offers an immersive evaluation experience.

It is important to highlight that the set of information, descriptions, images and the 3D model are essential elements for compliance with industry standards. The augmented reality application is compatible with both Android and iOS devices, requiring a minimum open space of 7x7 meters for an optimal experience.

The model will be presented at full scale, so move your phone and explore around the model, following the same process as you would with a real object.

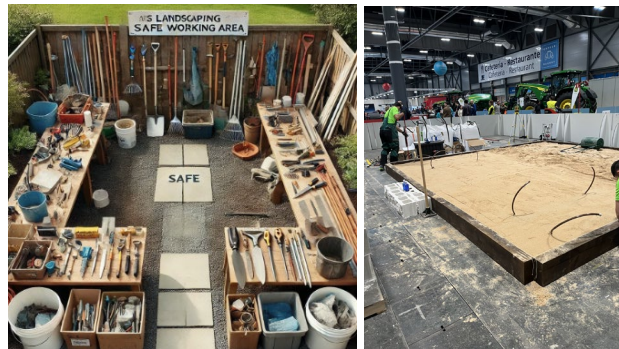
You can use other technologies to improve your understanding.

- To view 360 images, we recommend using meta guest glasses or a simple cardboard equipped with your cell phone.
- It is also possible to do 3D printing, we recommend resin printing due to the details.

Aspect A – Work site safety

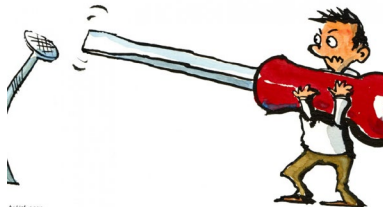
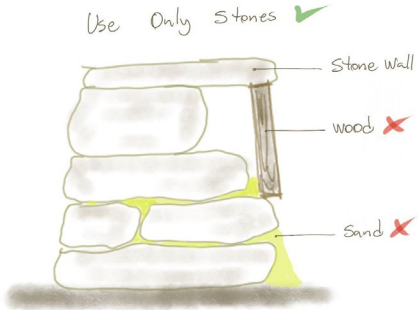
Cleanliness and safety of site

WSOS section as per TD	Score	Descriptor	Resource
1	0	Tools are lying around and there is a mess.	
	1	Specific tools/materials on site, at least the specific working area(s) is safe, and waste is not disposed of.	

WSOS section as per TD	Score	Descriptor	Resource
	2	Specific tools/materials only in use and in a working area and waste is not disposed of and all of the working area is safe.	
	3	Specific tools/materials only in use in the working area and all waste is disposed of and all of the working area is safe.	

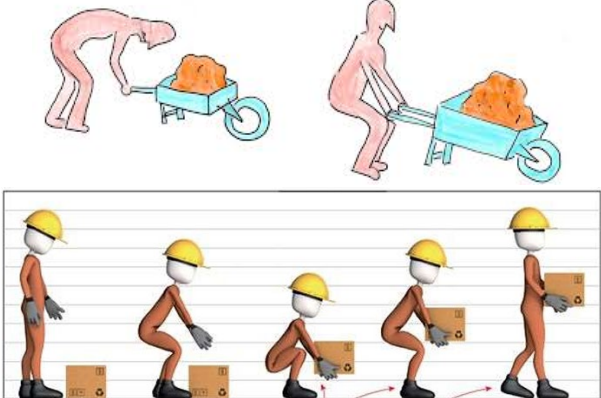
Aspect A – Work site safety

Use of Tools, Equipment and Materials

WSOS section as per TD	Score	Descriptor	Resource
3	0	Tools and equipment are used unprofessionally. Materials are installed not according to specification	Generic example of incorrect tool use:  Example of incorrect use of a material:  Example of correct use of equipment: https://www.youtube.com/watch?v=015ET8ioHjg&ab_channel=Lowe%27sHomeImprovement
	1	Tools and equipment are used mostly appropriately. Materials are installed according to specification	
	2	Tools and equipment are used appropriately. Materials are installed according to specification	
	3	Tools and equipment are used appropriately and proficiently. Materials are installed according to the specifications and are handled and installed proficiently.	

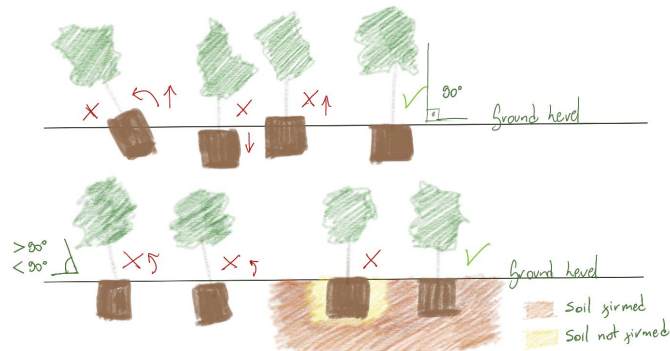
Aspect A – Work site safety

Ergonomics

WSOS section as per TD	Score	Descriptor	Resource
3	0	Working does not meet the ergonomic standard. Incorrect lifting, turning, carrying, they are running or jumping or throwing	
	1	Working sometimes to an ergonomic standard.	
	2	Work performed mostly to an ergonomic standard.	
	3	Correct lifting, turning and carrying	

Aspect B – Layout of Green space

Professional planting technique

WSOS section as per TD	Score	Descriptor	Resource
3	0	Planting depth is incorrect, soil is not firmed, and plants are not upright. The overall appearance is disorganized, with plants likely to fail due to poor planting techniques.	https://view.mylumion.com/?p=kx5cm9zcdhwd9k34 
	1	Planting to correct depth, soil firmed, plants upright. Basic planting standards are met, ensuring plant stability and initial growth.	
	2	Planting to correct depth, soil firmed, plants upright, damaged material removed (consider the season). The planting technique shows attention to detail and plant health, promoting better growth.	
	3	Planting to correct depth, soil firmed, plants upright, damaged material removed (consider the season), and the most aesthetic side faces the viewing point. The planting technique is meticulous, ensuring optimal plant health and visual appeal.	

To download the 360 images and use your VR glasses, access the link below.

https://drive.google.com/drive/folders/193mF0xujkt1NCp_Fd8pA1kUom6GYOvox?usp=sharing

Aspect B – Layout of Green space

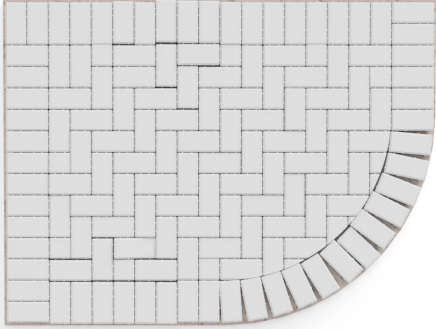
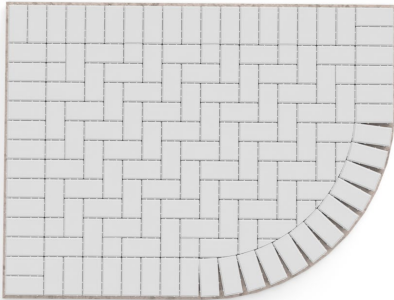
Layout of the planting

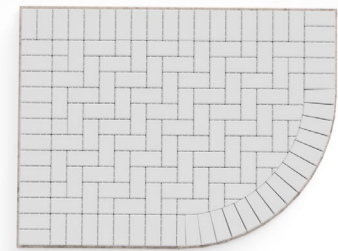
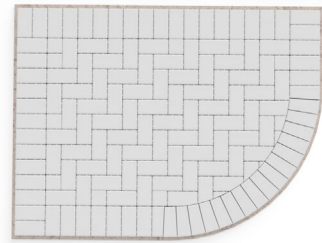
WSOS section as per TD	Score	Descriptor	Resource
3	0	No consideration given	 https://view.mylumion.com/?p=kx5cm9zcdhwd9k34
	1	Competitors have taken into consideration use of shape and texture, the layout of plants, contrast between the plants	 https://view.mylumion.com/?p=kx5cm9zcdhwd9k34

WSOS section as per TD	Score	Descriptor	Resource
	2	Competitors have taken into consideration use of shape, height and texture to create a visually nice display, in relationship to other plants	 https://view.mylumion.com/?p=kx5cm9zcdhwd9k34
	3	Competitors demonstrate an understanding of shape and texture to create a visually excellent display	 https://view.mylumion.com/?p=kx5cm9zcdhwd9k34

Aspect C – Pavement

Overall appearance of the pavement - Concrete

WSOS section as per TD	Score	Descriptor	Resource
	0	Missing pieces to be installed, non-compliance with the provided layout, pieces are not level and not at the same height, joints are not filled and levelled with the pavers, joints are not uniform and aligned.	
	1	All pieces were installed and follow the provided layout, all pieces are level and at the same height, all joints are filled, joints are uniform.	

WSOS section as per TD	Score	Descriptor	Resource
	2	All pieces were installed and follow the provided layout, all pieces are level and at the same height, all joints are filled and levelled with the pavers, joints are uniform and aligned.	
	3	All pieces were installed and follow the provided layout, all pieces are level and at the same height, all joints are filled and levelled with the pavers, joints are uniform and aligned, the chamfer finish was redone on the cut pieces.	

STL files for 3D printing <https://drive.google.com/drive/folders/17WQjLVDFky-VHnwGzFoZiGp01Cpw8EAz?usp=sharing>, we recommend printing on a resin printer (LCD).



Aspect C – Pavement

Overall appearance of the pavement - Natural

WSOS section as per TD	Score	Descriptor	Resource
3	0	Missing pieces to be installed, non-compliance with the provided layout, pieces are not level and at the same height, joints are not filled and levelled with the pavers, joints are not uniform and aligned. Several stones are cracked or broken.	 
	1	All pieces were installed and follow the project specification, most pieces are level and at the same height, joints are filled and are relatively uniform and aligned. There are no cracked or broken stones.	
	2	All pieces were installed and follow the project specification, almost all pieces are level and at the same height, all joints are filled and levelled with the pavers, joints are uniform and aligned. There are no more than 2 joints connecting. There are no cracked or broken stones.	
	3	All pieces were installed and follow the project specification, all pieces are level and at the same height, all joints are filled and levelled with the pavers, joints are uniform and aligned, there are no more than 2 joints connecting (100%). There is harmony between the sizes of the stones used. There are no cracked or broken stones.	

Aspect D – Wall

Overall appearance of Stone Wall - Natural

WSOS section as per TD	Score	Descriptor	Resource
	0	The wall needs to be redone. Lack of regularity and uniformity in the joints, many small stones. The stones are not aligned or properly adjusted. The structure is not stable as there is no intersection of the stones with the underlying stone by at least 1/3 in more than half of the wall face. Poor overall appearance due to lack of stone selection.	
	1	The wall has been completed. There is structural stability, the intersection of the stones with the underlying stone is at least 1/3 in at least 75% of the wall. Wall appearance is according to the external standard. The wall face is flat in more than half of the wall. Most of the stones are properly adjusted and aligned.	

WSOS section as per TD	Score	Descriptor	Resource
	2	The cornerstones have been selected. The intersection of all stones with the underlying stone by 1/3 is in more than 75% of the wall. Excellent regularity in stone size and joint uniformity. More than 75% of all stones are properly adjusted and aligned. The structure is stable. Perfect visual harmony and appearance integrated with the environment.	

WSOS section as per TD	Score	Descriptor	Resource
	3	The cornerstones are specially chosen and are excellent for the corner. The intersection of all stones with the underlying stone is at least 1/3. Extraordinary regularity in stone size and joint uniformity. All stones have been adjusted or chosen to ensure horizontal and vertical alignments, creating a perfect surface without undulations. The structure is very stable. Perfect visual harmony and appearance integrated with the environment, maintaining the same style throughout.	



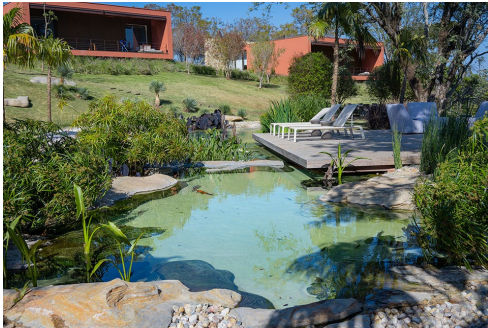
Minimum 1/3

Aspect E – Water Feature

Overall appearance of the pavement - Natural

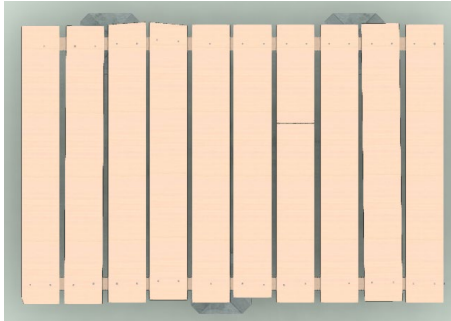
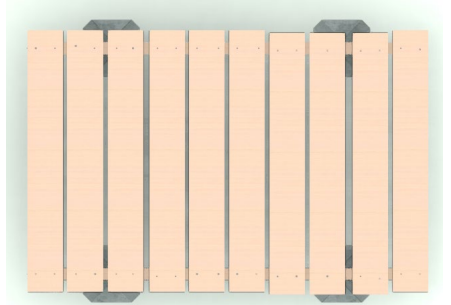
WSOS section as per TD	Score	Descriptor	Resource
3	0	Does not look natural, the stones are located randomly and do not resemble what is found in nature	

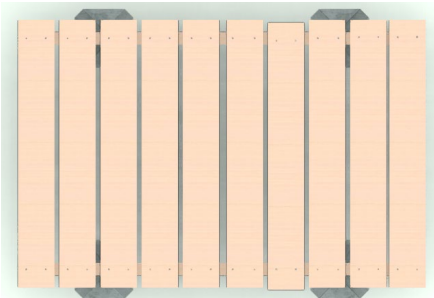
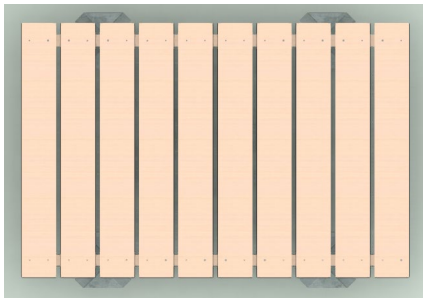
WSOS section as per TD	Score	Descriptor	Resource
	1	Looks like a natural pond in some places, the stones are consistently distributed and appear somewhat natural	
	2	Looks natural almost everywhere (80%), Some stones are specifically chosen and appear natural	

WSOS section as per TD	Score	Descriptor	Resource
	3	Looks natural everywhere, all stones are specifically chosen and distributed and reflect what is found in nature	 

Aspect F – Wood construction

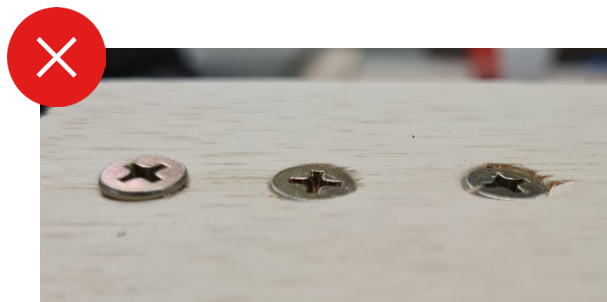
The gaps between wooden strips are consistent

WSOS section as per TD	Score	Descriptor	Resource
	0	The majority of gaps between the wooden boards are visibly irregular and not parallel. The gaps vary significantly in width, and the boards are not aligned, resulting in a disordered appearance. https://adobeasero.app.link/Jl33gXKV5lb https://autode.sk/3xMGyQN	
	1	The gaps between the wooden boards are mostly consistent and regular at first glance, with minor irregularities allowed. Most boards are parallel, with some minor misalignments, but they do not compromise the overall appearance. https://adobeasero.app.link/Jl33gXKV5lb https://autode.sk/3xMGyQN	

WSOS section as per TD	Score	Descriptor	Resource
	2	The gaps between the wooden boards are almost all consistent, regular, and parallel. Irregularities are minimal and hardly noticeable, maintaining a well-aligned and professional overall appearance. https://adobe.aero.app/link/Jl33gXKV5lb https://autode.sk/3xMGyQN	
	3	All gaps between the wooden boards are uniformly consistent, regular, and parallel. There are no perceptible irregularities. The finish is impeccable, with all wooden boards perfectly aligned and gaps of uniform width along the entire length. https://adobe.aero.app/link/Jl33gXKV5lb https://autode.sk/3xMGyQN	

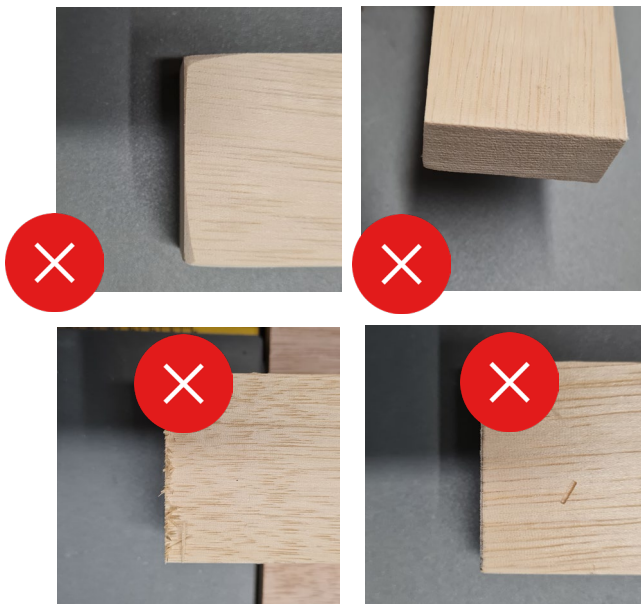
Aspect F – Wood construction

Alignment and height of screws

WSOS section as per TD	Score	Descriptor	Resource
	0	Most or all of the screws are not in line, they were fixed without any established pattern, they do not form a single surface with the wood (height and angle), screws were not used.	  https://adobeacro.app.link/Jl33gXKV51b https://autode.sk/3xMGyQN
	1	70% of the screws. Are in line; they were fixed using an established pattern; they form a single surface with the wood (height and angle); number of screws is in accordance with the test project or more.	
	2	More than 70% of the screws. Are in line; they were fixed using an established pattern; they form a single surface with the wood (height and angle); number of screws is in accordance with the test project or more.	
	3	All screws. Are in line; they were fixed using an established pattern; they form a single surface with the wood (height and angle); number of screws is in accordance with the test project or more.	

Aspect F – Wood construction

General appearance of woodwork

WSOS section as per TD	Score	Descriptor	Resource
	0	The woodwork (deck, bench, pergola...) was not completed, parts are missing, and the execution was inconsistent with the project, there are spliced parts, it is dirty, the parts have not been sanded. Cuts were made without complying with the necessary alignments, joints or fittings with significant gaps/parallelism.	https://adobeacro.app.link/Jl33gXKV5lb https://autode.sk/3xMGyQN 
	1	The woodwork (deck, bench, pergola...) was completed according to the project, it is clean, 70% of the surfaces were sanded and did not lose their edges, 70% of the cuts made allow a joint or alignment without variations, or gaps/parallelism. There are no hand or boot marks in the wood.	
	2	The woodwork (deck, bench, pergola...) was completed according to the project, it is clean, more than 70% of the surfaces were sanded and did not lose their edges, more than 70% of the cuts made allow a joint or alignment without variations, or gaps/parallelism. Maximum 5 wounds or pencil marks in the wood.	

WSOS section as per TD	Score	Descriptor	Resource
	3	The woodwork (deck, bench, pergola...) was completed according to the project, it is clean, all of the surfaces were sanded and did not lose their edges, all of the cuts made allow a joint or alignment without variations, or gaps/parallelism. There are no wounds or pencil marks in the wood.	https://adobeacro.app.link/Jl33gXKV5lb https://autode.sk/3xMGyQN 