

SATIN Case Study

'Mires Walk, Glen Finglas Boardwalk Replacement



Stepped and ramped section of original boardwalk



Scottish Access
Technical Information
Network

Background

This 500m length of the 'Mires Walk', near Glen Finglas in the Trossachs, was a mix of narrow stepped and ramped raised timber walkway and stone pitching. Whilst the stone pitching sections were in good condition, the timber walkway was beginning to show its age, had become dangerously slippery and required to be covered with rabbit netting as an anti-slip measure. Although this approach can be quite effective in the short-term, the wire netting tears quite easily; creating a trip hazard and requiring regular maintenance. The route also had sections that were steeply ramped and with multiple stepped height variances.



In addressing these issues, a decision was also taken to adopt a more inclusive design approach; removing all existing timber and stone walkways and replacing them with an 'all-abilities', step free raised timber, or recycled plastic, walkway that could be used by the less able.

Critical to this was to know whether a step free route could be achieved and which avoided gradients greater than 8% along its full length. This required the commissioning of a topographical survey, incorporating a 20m wide 'corridor' along the proposed route to allow for possible route variances.

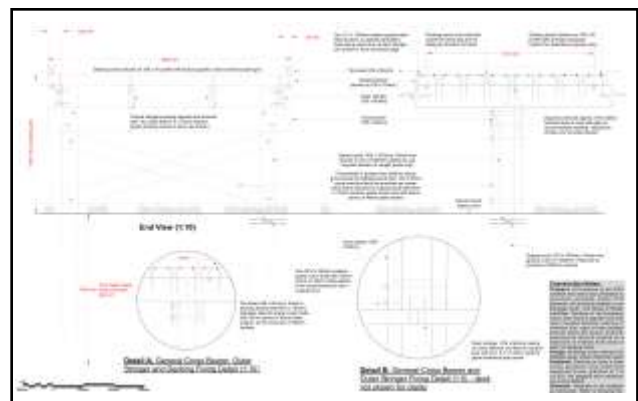


Stepped and ramped section of original boardwalk

Technical Detail

The topographical survey enabled a 'gradient friendly' route to be identified and for the technical drawings to be drafted.

To help manage costs, the walkway required to be constructed using UK sourced timber rather than using the considerably more expensive, but more durable, option of 100% recycled plastic.



A decision was taken to use European Larch for the walkway as it provided good levels of durability, was cost effective and could be used untreated to avoid any leacheates getting into the surrounding soils. This was later changed to use UK grown oak, for the supporting posts only, as it provided increased levels of durability.

Technical Detail (contd.)

The original raised walkway was only 0.8m wide and the preference was to increase this to a minimum of 1.2m but with the addition of regular passing places at key points. This not only improved the accessibility of the route but increased safety for the varied user groups. All decking came with 2no. factory applied anti-slip strips for added user safety and the decking was laid at 90deg to the direction of travel, unlike the original sleepers which were laid lengthways.



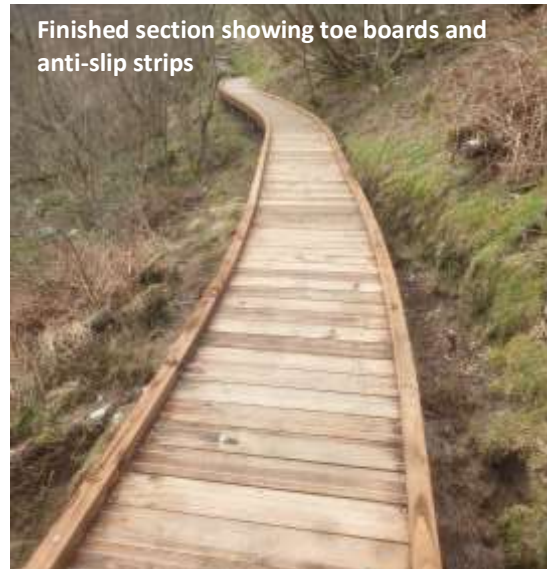
Sub-structure showing supporting cross bearers and stringers onto which decking is fixed

Decking boards were spaced at 5mm and toe boards were installed along each side; for wheelchair users or people with mobility difficulties who may feel less comfortable being on a raised boardwalk.



Finished section showing toe boards and passing place

All fixings were either A2 grade stainless steel or other exterior quality to maintain longevity.



Finished section showing toe boards and anti-slip strips

Consideration was given within the design and implementation of this project to ensure no stepped height variances were included in the new raised walkway.



Cross bracing on more elevated sections of sub-structure (passing place)

Throughout the planning stages of this project, great care was taken to inform local stakeholders at all times, including the farmer who was required to remove livestock whilst works were underway. The project was also timed for the winter months to avoid an extended bird nesting season.

Project Outputs and Outcomes

- 432sqm of new, timber raised walkway constructed including passing places and an extended area for use as a dipping platform.
- Steps removed from raised walkway sections improving access for those that are less able. Walking width extended by 50%.
- Anti-slip decking used throughout full construction and full structure built using UK grown timber.
- Improved route allows a greater number of users to connect with a network of other paths within the area and helps them avoid a narrow and dangerous rural road when doing so.

Evaluation

The project provides a greatly improved link which has proven to be very popular with the local community and the many visitors to the area.

The local community and wider stakeholders were consulted and informed throughout the planning and design stages to ensure buy-in at all stages of this project.

Usable width was increased to make access more comfortable and safe whilst also allowing a wider range of user groups including the less able and those within a wheelchair (over part of the route).

Additional care taken at a road crossing to allow path users to safely open gates whilst standing off the road edge.

Proper design and careful construction will provide a cost effective and hard wearing shared-use surface.

Key Learning Points:

- Involve a specialist consultant to help develop the path design: they will help to ensure the route complies with current best practice and is built to the required specification.
- Where linear gradients are critical to the success of the project, consider having a topographical survey undertaken to allow a suitable route to be accurately plotted.
- Look to work with partners, who may also be responsible for neighbouring land, to make sure the route meets accessibility standards.
- Involve local groups and other stakeholders that represent path users in planning the trail, and be prepared to respond to their concerns.
- Consider inclusive design at all times to improve access for all types of users.
- Draw up tight contract specifications and tender documents to help manage expectations and limit ambiguity and uncertainty.
- Identify competent contractors with proven experience in the work being undertaken.
- Supervise contractors carefully, especially if you don't have prior experience of working with them.
- Where possible, ensure all aspects of the work are included in the project plan and budget.
- Build in an on-going maintenance budget to ensure the route continues to meet accessibility standards and does not fall below them due to damage, decay or other factors.

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