



strata

landscape architects

about us

Strata Design is a forward thinking landscape architecture practice.

We design with positive purpose and intent to deliver tangible social and environmental benefits.

Our projects combine a hopeful approach with maximum benefits for wildlife and amenity for people.

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case study

Princess Anne Hospital staff roof garden

Thanks to funding from the sale of the gifted Banksy Game Changer artwork, an opportunity became available to create a staff roof garden on Princess Anne Hospital, Southampton.

Proceeds from the sale of the artwork were used to fund NHS projects with an emphasis on mental health and wellbeing.

After a competitive bidding process, Strata were appointed to undertake the design of the new roof garden.

The rooftop garden was developed with staff at UHS and opened to coincide with the 75th anniversary of the National Health Service.



roof garden

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Significantly enhancing the availability and quality of amenity space for University Hospital Southampton staff, the rooftop garden provides a restorative space to unwind and relax. The garden transforms a barren rooftop into a fantastic green space for health, wellbeing and biodiversity.



An early 3d print with social seating pods, planters and shelters.

Initial render exploring planter and seating configuration for casual socialising.



Axo render.



design development

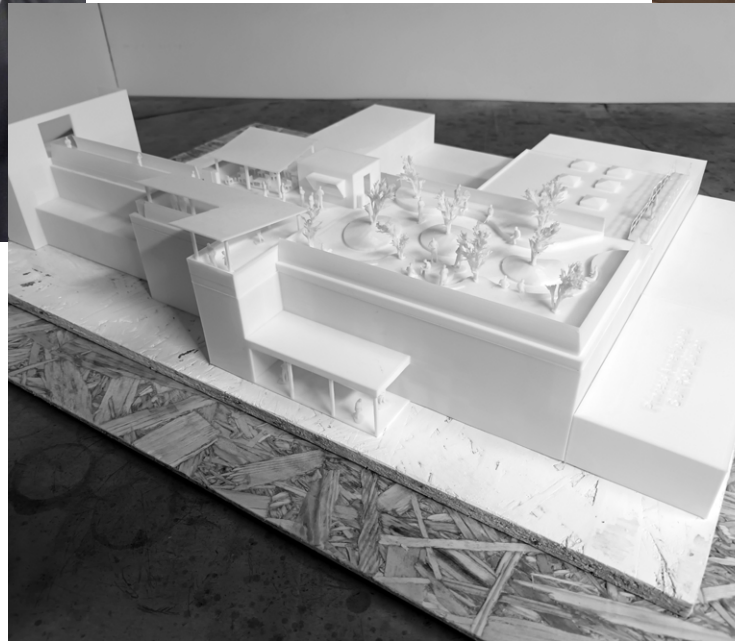
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The design brief for the roof garden stipulated a restful space where staff could rest and recharge. The principles were explored in an initial location, subsequently proving unsuitable due to potential contamination risks from an adjacent cooling tower. A new location above the main entrance was chosen.



Exhibition boards and model in Princess Anne Hospital reception.

3d printed model.



Video display of 3d walkthrough.

engagement

The developed design was displayed at various locations around University Hospital Southampton for staff feedback. Exhibition boards, a 3d printed model and a video walkthrough conveyed the design intent in an easily understandable format.



digital model

An immersive virtual digital twin model was also used to explore the design during online collaborative workshops with client, staff and stakeholders. The virtual model was an ideal forum to discuss and review the design and character of the space and get instant feedback.



Standing bar area with views over the Test and Western Docks.

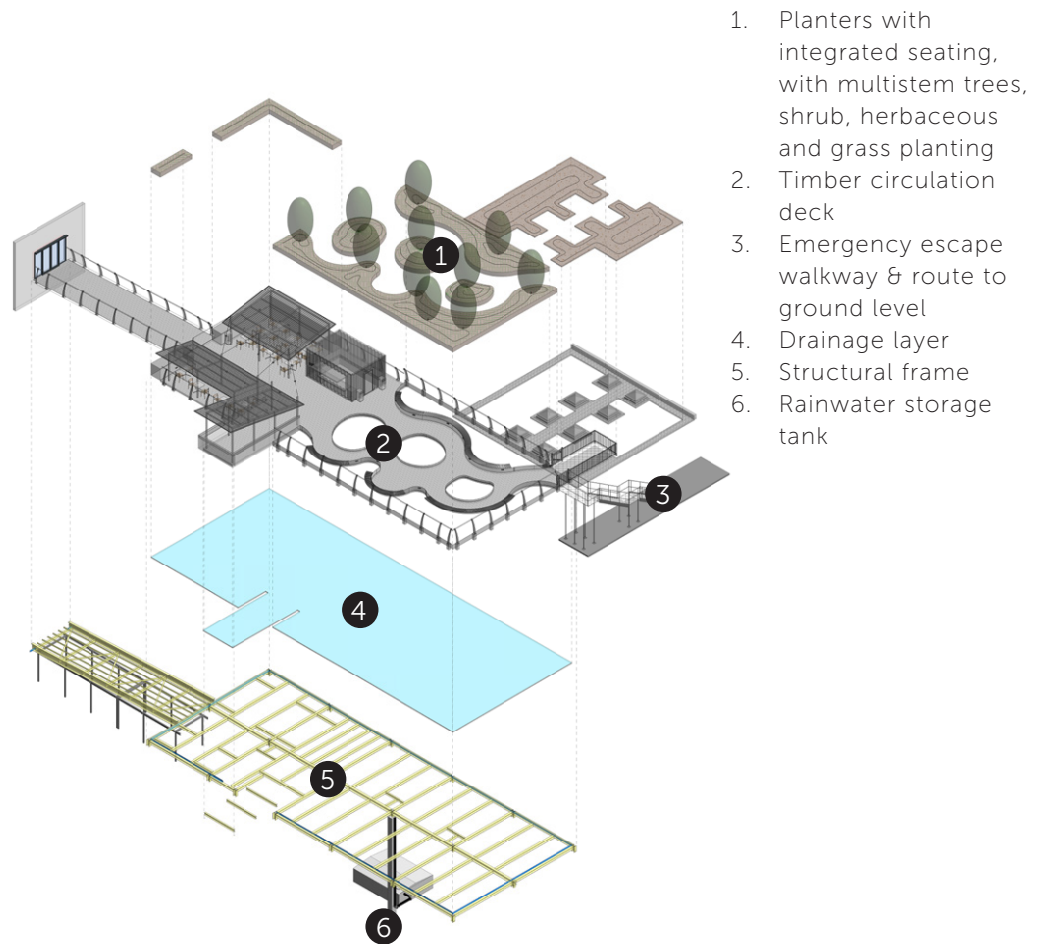
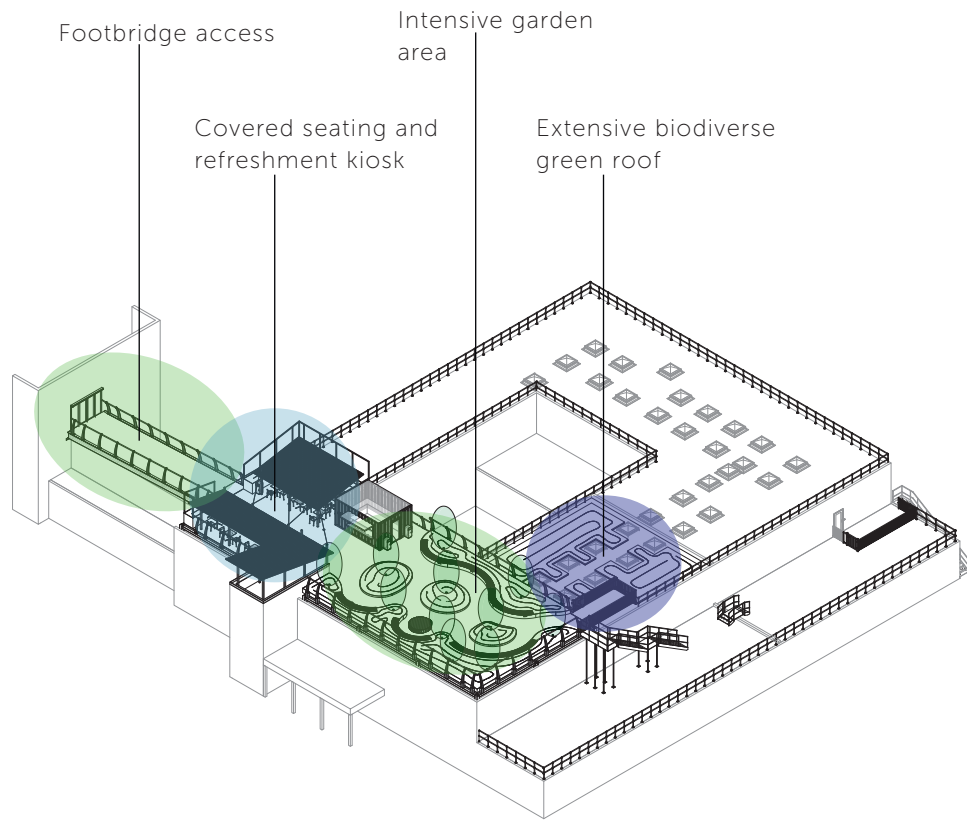
Social seating pod.



Warm temperature surface wash lighting.

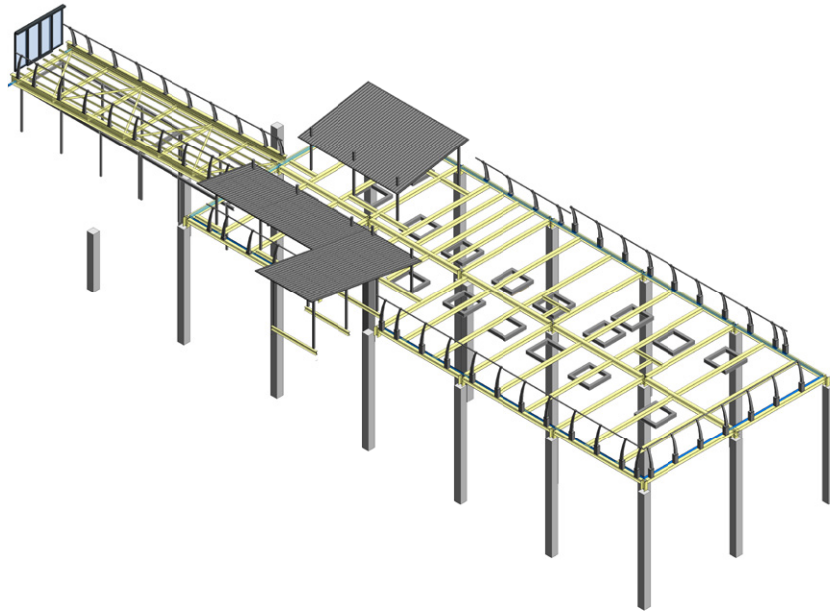
visualisation

Throughout the design journey, various visualisations and walkthroughs were prepared in-house and used extensively to explore the design, engage stakeholders and convey the sensory qualities of the space.



organisation

The garden features a sociable covered seating area with space for a forthcoming refreshment kiosk, a more secluded area with verdant planting and integrated seating for quiet reflection. A biodiverse green roof of wildflower meadow with viewing platform allows non-intrusive engagement with the wildlife inhabiting the new planting.



Princess Anne Hospital opened in 1981. The loading capacity of the concrete frame and slab construction proved insufficient for an intensive roof garden. The use of a steel frame transferring the loads to the existing columns allowed deeper planters with sufficient soil volume for shrub and tree planting and ample seating. The frame also spanned a complex roofscape of existing skylights and service equipment.

The footbridge allowed access over a lightweight corridor below, extending 15 metres from the existing stairwell and lift core to the new roof garden.

Canopy structures and a 3kn balustrade were neatly integrated with the sub-frame.

structure

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The project is heavily informed by the recommendations contained within the UHS Green Plan and associated Biodiversity Action Plan (BAP) commissioned by UHS.

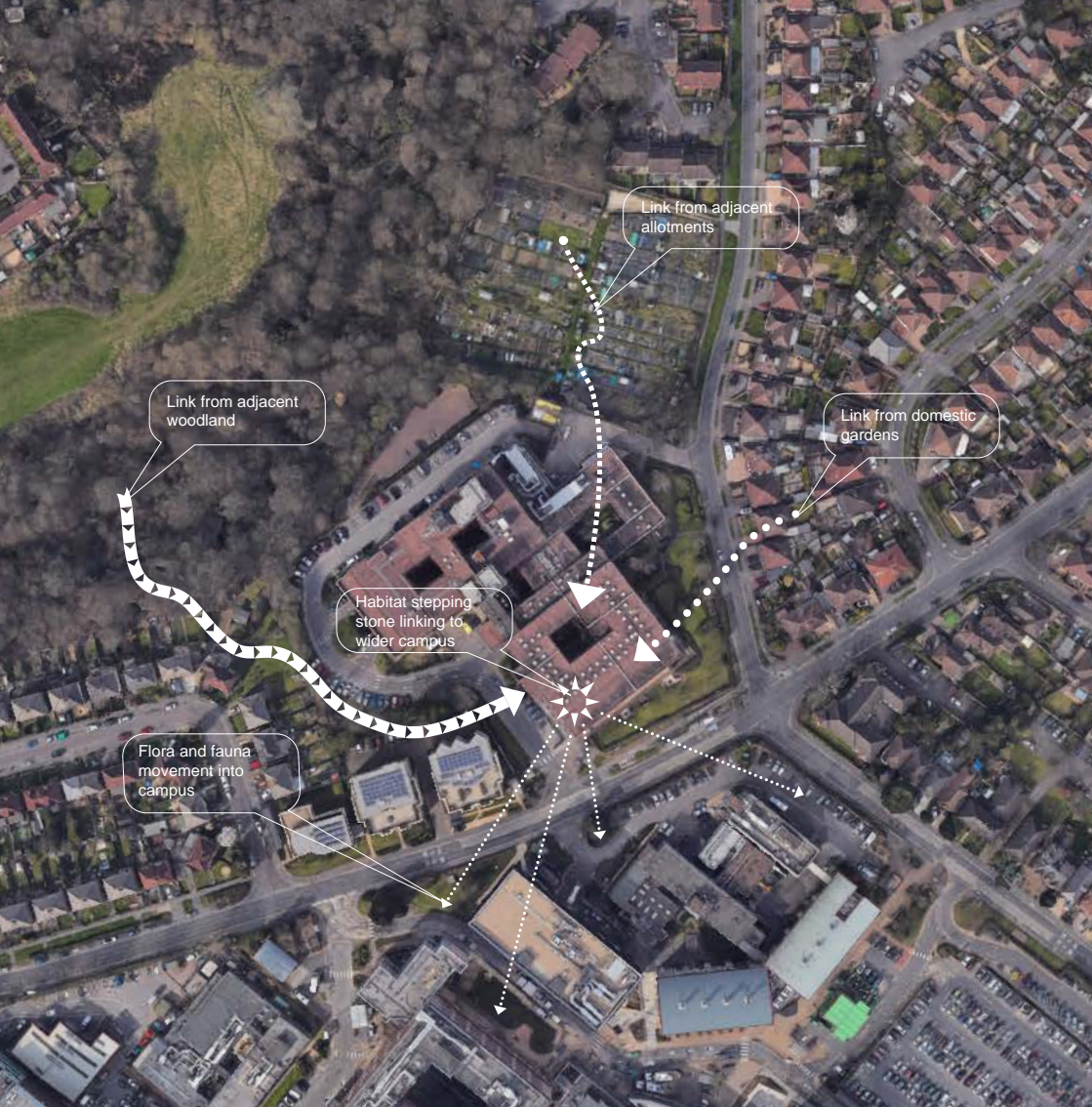
Hosting a total of 84 plant and 7 tree species across 157m² of planting beds in the garden area and 170m² of wildflower meadow within the biodiverse roof area, the roof garden planting utilises a wide variety of species, enriching local habitat provision, structure and diversity and increases the site's resilience to climate change.

The onsite planting and wildflower turf mixes include a substantial proportion of species which support bumblebees, butterflies and other pollinators and which flower at different times throughout the year to maximise the availability of food resources throughout the season.

Ecological features feature prominently within the planting and biodiverse green roof area, including lying deadwood, log piles, sand burrows, undulating substrate and micro climate pockets.

biodiversity

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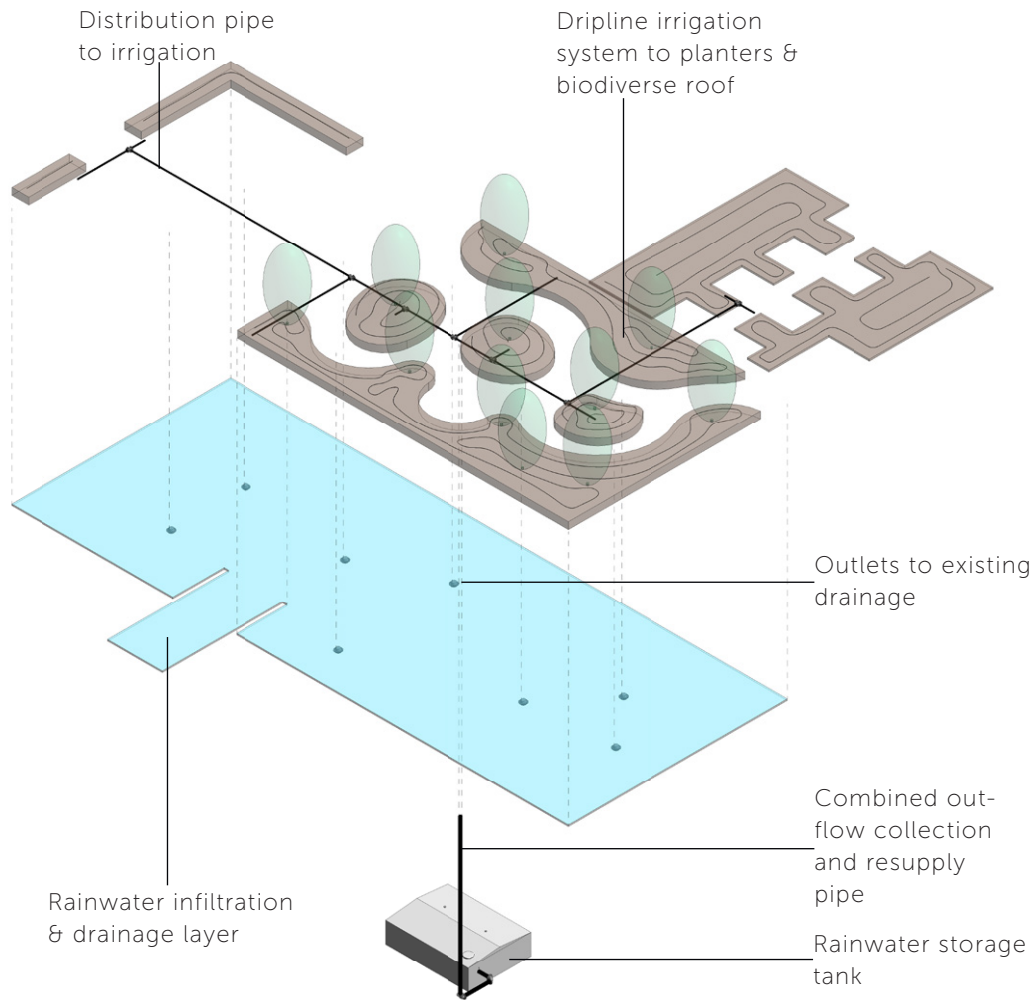
The green infrastructure elements are multifunctional, incorporating visual, ecological and functional benefits. The provision of the roof garden on a currently sterile rooftop enhances local connectivity for wildlife and provides a stepping stone into the UHS campus from the adjacent allotments and Lordsdale SINC.

Species are hardy beyond expected winter temperatures, tolerate full sun and exposed locations, and are thus suitable for the roof garden location.

Provision has been made for long term maintenance of the planting and ongoing monitoring post development. The biodiverse green roof area will allow for plant communities and habitats to establish with minimal disturbance from human activity.

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green infrastructure



The pedestrian roof surface is designed to function as a blue/green roof system. Due to restrictions on standing water, the system is designed to drain completely to a treated tank.

Through rainfall capture, storage and reuse in an automated irrigation system, planting resilience to drought events is significantly increased, reducing ongoing maintenance labour requirements and potable water use.

Rainfall filters through the timber deck into an intermediate interception layer discharging to the existing roof drainage points. These are subsequently diverted into a storage tank below with UV sterilisation equipment.

Controlled via an automatic system linked to local weather data, stored water is pumped from the tank back to the roof to irrigate the planters via an efficient dripline system. On completion of a watering cycle, runoff water drains back to the storage tank for treatment and reuse.

water

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wellbeing

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The benefits of outdoor space for staff mental health and wellbeing are well documented. In a study undertaken by NHS Forest, 83-89% of staff said they would like to spend more time in green space at their site. Benefits described included feeling relaxed and calm, refreshed and re-energised and positive effects on mental and physical wellbeing. The roof garden provides a restorative space available 24 hours a day.



lighting

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The lighting scheme employs warm colour temperature lamps of 3k or less throughout. The lighting deliberately avoids blue/cold light which adversely affects wildlife behaviour. LED fixtures are used for reduced illuminance without compromising visibility. Downlighters, in-surface and on ground luminaires provide targeted illumination of circulation areas, reducing upwards light spill. The surface wash lighting approach also reduces the level of lighting perceptible from the surrounding area.



Structural frame and deck installation.



Drainage layer with attenuation and water capture.



The project was constructed in Spring and early Summer 2023. Working in a live hospital environment with multiple crane lifts, road closures and 24hr access for staff required careful coordination and programming.

construction

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“It is such a wonderful area, and our staff are already enjoying the views and new relaxing space to take a well-deserved break. Thank you for working so hard on it.”

Southampton Hospitals Charity

Client



ribbon cutting

The ribbon cutting ceremony for the roof garden coincided with the 75th Anniversary of the NHS. 240 staff, members of the project team and the client Southampton Hospitals Charity celebrated the opening.

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with thanks to...



project team:

Client: Southampton Hospitals Charity

Project Management: Paul Stansfield, Rachel Gerdes-Hansen,
UHS Estates

Landscape Architect: Strata Design

Cost consultant: WT Partnership

Structural Engineer: White Structures

M&E Engineer: Hulley & Kirkwood

Drainage: EPG Ltd

Contractor: West End Group Ltd

connect

Reach out and let's find out how we can help your project.

We like working with clients who care about what they do, the social value of the projects they undertake, and the people who inhabit the finished project. If that's you, drop us a line.

www.strata-design.co.uk

studio@strata-design.co.uk

+44 (0)7972 656052

The Workshop
47 Southgate St
Winchester
SO23 9EH