Intentional Ecological x Industrial work site.

Barking Riverside, London IG11

Green Roof Shelters Ltd

BIG Biodiversity Challenge Award Category: Innovation Award

Project overview

- We have begun creating the first *intentional ecological industrial work site*.
- Using meanwhile space destined for redevelopment, we are making (and working from) an example of how external spaces / open areas can be used for industry and business purposes whilst simultaneously benefitting wildlife.
- Date: Ongoing. Begun Jan 2024, but as a continuation of smaller trials 2008 - 2024

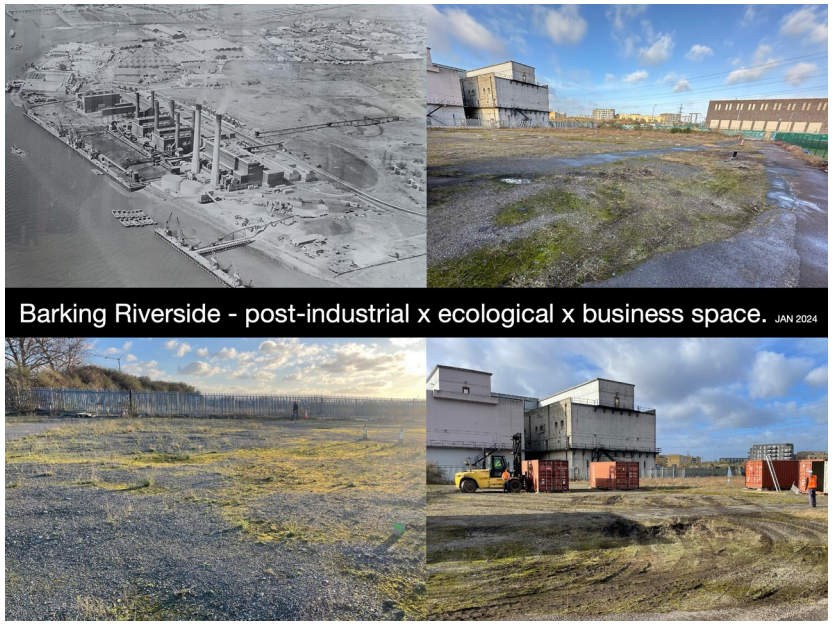
What were the biodiversity conditions on site prior to the enhancement?

Largely surfaced in waste road planing materials (asphalt /waste aggregates), the site had a thin selection of ruderal plant species. A baseline survey was conducted by Rocket Ecology (to measure enhancements against, while operating as a functioning manufacturing yard).

What were the reasons behind this project?

Our endeavour is to see how much biodiversity we can add to a working yard (or business park, or industrial estate, or outdoor storage space) while making the wildlife habitat moveable or flexible enough to co-exist.

The project is a direct response to the competition's remit of being beyond normal business practice (but seeking to make it common practice), with increases in biodiversity at its core (plant species, invertebrates, birds), and being simply replicable. It encompasses the metrics of BREEAM & Biodiversity Net Gain, whilst offering social, human gains with the connection and closeness to nature.



Photos: Green Roof Shelters

What were the biodiversity measures taken?

Green Roof Shelters design and manufacture innovations that marry wildlife provision and human utilities. All products incorporate both functions.

To create a workplace that accommodates the needs of both a business and wildlife, we have added structural habitat using:

Shipping containers with green roofs provide welfare space and storage for employees, as well as substantial growing roofs as less-disturbed space for wildlife. All green roofs have 150-200mm deep, varied low nutrient substrates, planted with a diverse mix of pollen and nectar-rich native flowering plants (46+) and some non-native species to extend the nectar season (in conjunction with Beth Chatto gardens), all of which thrive in stressed conditions. Log piles and sand mounds also provide additional habitat/nesting.

The use of relocateable rubble gabions makes demarcating boundaries and internal spaces easy, while providing invertebrate refuge, forage and nesting opportunities. Each have Thanet sand banked against them for ground nesting solitary bees and other invertebrates, and are planted.

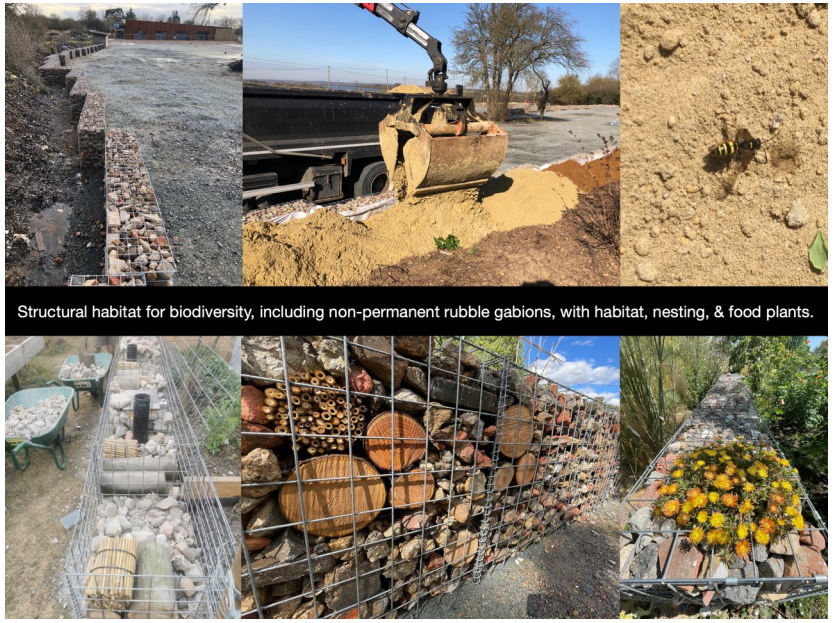
The easily-moveable metre-cube planters are filled with a variety of post industrial reclaimed substrates - crushed ceramic, reclaimed sand, crushed concrete, brick rubble and fines, planted with nectar-rich species, with each substrate providing different habitat conditions.

Semi-permanent Green Roof Shelters - for daily use on-site - accommodate cycleparking and binstores. Each typically has 1.6m2 of habitat nesting material per shelter - over 1000 drilled holes, in durable coppiced UK sweet chestnut, for solitary bee nesting..Roofs have additional invertebrate habitat consisting of log piles and sand mounds.

All shelters have bird nesting boxes, for blue or great tits, or social nesting boxes for house sparrows, and information/interpretation panels to explain what's on the growing roof and for which species it is typically a food plant for.

Existing fences are used as 1 metre planting strips for invertebrates, with plug plants added to existing amenity grass, and areas taken out of the mowing cycle.

Bee Sand Planters are sand planters for ground and aerial-nesting solitary bees - in the form of public-space planters or street furniture. Each utilise 0.25cu metre of sand as nesting space, and have the aesthetic of a planted feature.



Photos: Green Roof Shelters

Further information

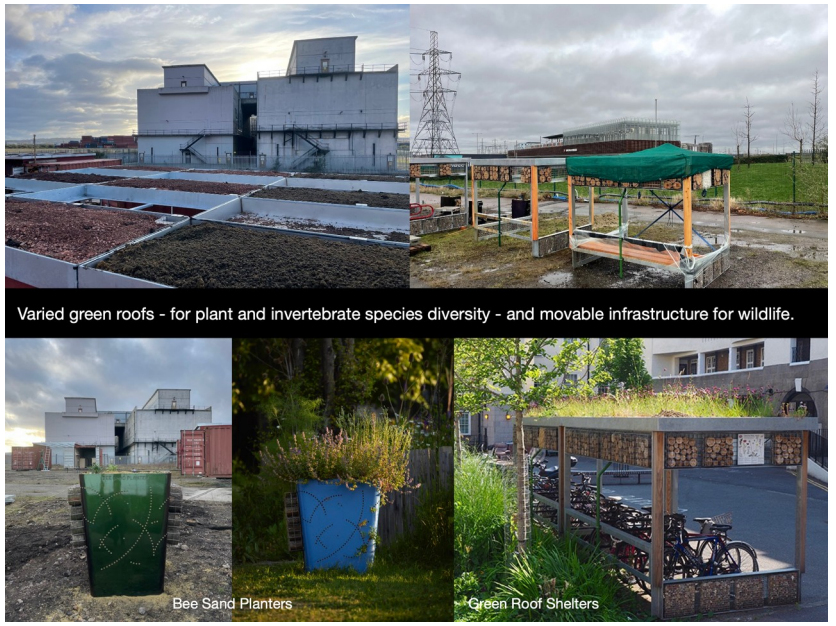
Because the site is a meanwhile space, with an initial 3 year life span, replicability and easy relocation / movement is a core function.

Learning by doing: as well as ecologists recording the biodiversity gain, we have a UEL PhD student basing her research on the onsite planting trials and intended climate resilience. This is a 3 year project for her.

Features need to have an aesthetic appealing enough to persuade the commercial eyes of developers, facilities managers, and their customers / users / the public. Information and interpretation materials are invaluable in engaging and captivating the public.

The benefit of entering the BIG Biodiversity Challenge is reflecting and trying to articulate what we're doing.

** We'd be very happy to send additional/replacement photos in the coming month. After the wettest February on record, much of the seed-sown planting was slow to emerge, but will photograph better in the coming weeks/month. **



Photos: Green Roof Shelters

Project Team

- collectively Green Roof Shelters Ltd

What was the motivation for carrying out the enhancement?

Our work, and preoccupation over 15+ years, is getting more opportunities for wildlife into the built environment - for the benefit of wildlife and people. Multiple small interventions can add up to significant opportunities.

Just as open mosaic habitat is the most successful biodiverse habitat we have, the built environment should aim for the same complexity of wildlife habitats.