

6. Quarry Reclamation

CONTEXT

In 1995 this hole in the ground is a working china clay pit that is nearing the end of its economic life in Cornwall.



The idea was to take it from a disused quarry that was a blot on the landscape and turn it into a world-famous visitor attraction and educational charity called the Eden project.



In the first two months of construction it rained every day; 43 million gallons of rainwater drained into the pit. This prompted the engineers to come up with a magnificent subterranean drainage system that now collects all the water coming on to the site. This is used to irrigate the plants and flush the toilets, while rainwater that falls on the Biomes is used to maintain the humidity inside the Rainforest Biome. Today almost half of our water needs are provided from water harvested on site

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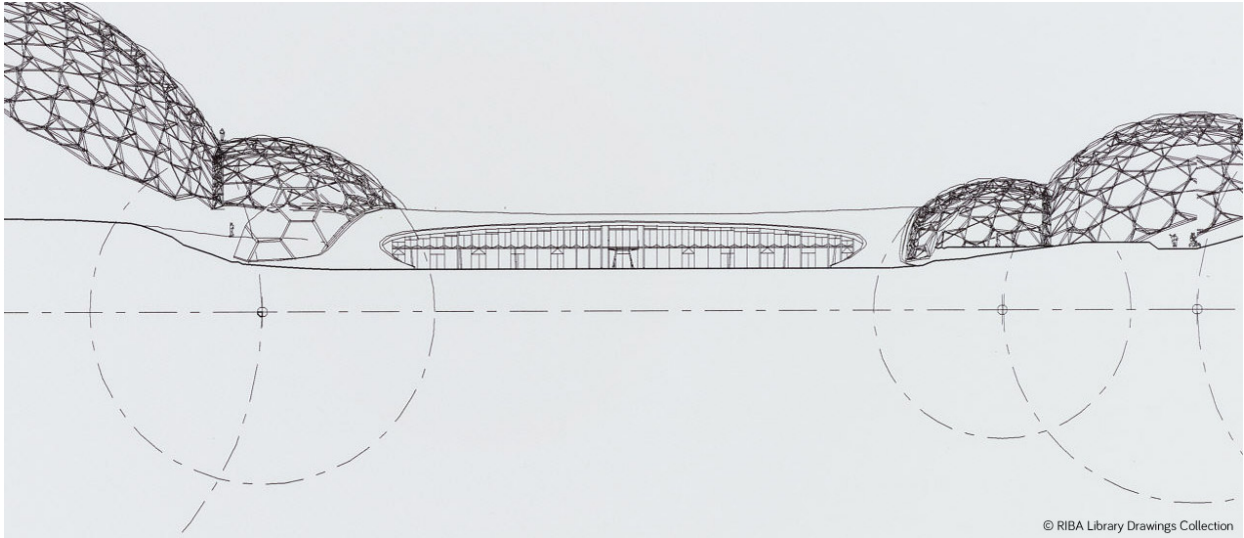
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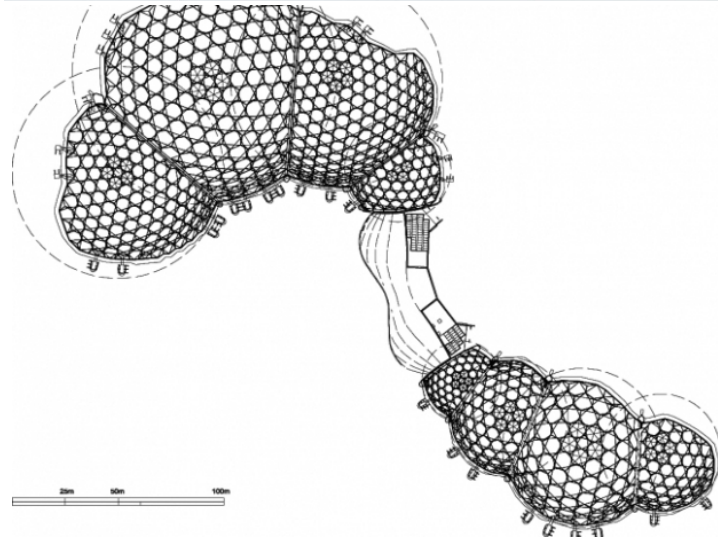
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This structure, bubbling above the surface of the pits of a former quarry, comprises 2.2 hectares of growing space for plants in rainforest and Mediterranean conditions. Nicholas Grimshaw's successful Millennium Project sits on the site in the form of eight domes of varying sizes, interlinked, lining the foot of a cliff. The isolated uneven site and the need to create optimum conditions for photosynthesis required a lightweight solution that wouldn't need bespoke parts or cast deep shadows.

Eden Project's domes are an economic way of enclosing large amounts of space and unlike traditional greenhouses the design uses panels that are made of two layers of ethylene tetrafluoroethylene (ETFE) foil, a plastic instead of heavier glass. Tubular steel hexagons join up to create the frame of each dome, the size of each hexagonal element contracts and decreases in accordance with the size of the dome. ETFE proved easier and quicker to cut than glass to span the different sizes of hexagonal panels.

Today it attracts around one million visitors a year



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CONTEXT

A local quarry has now come to the end of its life. The local council are looking for bids to turn this blot on the landscape into an exciting renovation. The quarry is just on the outskirts of Chester and Flintshire.

DESIGN TASK

Using the Eden project and its map above as inspiration. Use the map of the disused quarry on the opposite page to submit design proposals for the land. Over the last couple of years the council have started to regenerate the local area planting lots of trees and providing nature walk paths to hide the quarry from sight. This can be incorporated into the design or new ideas proposed. Use the map to trace or draw your design proposals over the top. These can be anything from stadiums, golf courses, eco centres to housing.

