www.bike-trend.com

GEARING FOR INNOVATION

T E A M   M A R Y L E B O N E
SKYE WOODHOUSE+CASEY WHITMILL+JAKE LIDDICOAT+KELSEY PAUL

+PROJECT OVERVIEW

+Design an alternative solution for the Serpentine Pavilion that exemplifies design ideas that mitigate the spector of global climate change.

+Educate the public about the possibilities of net zero design.

+Program:
+ Café Space
+ Comfortable daytime gathering spaces
+Nighttime performance space

+DESIGN FOCUS

+ Design for environmental and socioeconomical sustainability specific to the scale of the project.

+Use reused bicycles to drive the form and overall design of the pavilion.

+Demonstrate how everyday objects can be reused to create strong, functional structures.

+Create an efficient modular design

+STANCE ON SUSTAINABILITY

the site	obstructs efficient transport								facilitates efficient transport	Environmental/socioeconomic	Low		
	pollutes waterways								does not pollute water	Environmental	High		
	floods away rainwater								attenuates rainwater	Environmental	High		
	~~consumes food~~								~~produces food~~				
	~~destroys rich soil~~								~~creates rich soil~~				
	dumps waste								minimises and segregates waste	Environmental	High		
	pollutes air								does not pollute air	Environmental/socioeconomic	High		
	intensifies local weather								moderates local weather	Socioeconomic	Medium		
	generates energy inefficiently								generates clean energy efficiently	Environmental	Low		
	destroys wildlife habitat								provides wildlife habitat	Environmental	Low		
the building	**uses a lot of energy**								**uses minimal energy**	Environmental	High		
	excludes daylight								maximised daylight	Environmental	High		
	unnessary mechanical heating								maximised passive heating	Environmental	Medium		
	unnessary mechanical cooling								maximised passive cooling	Environmental	Medium		
	is built of polluting materials								**is built of non polluting materials**	Environmental	High		
	cannot be recycled								**can be recycled**	Environmental	High		
	minimum flexibility								**maximum flexibility**	Socioeconomic	Medium		
	pollutes indoor air								maintains clean indoor air	Socioeconomic	High		
	uses inefficient circulation								uses efficient circulation	Socioeconomic	Medium		
	produces human discomfort								provides human comfort	Socioeconomic	High		
	encourages human inefficiency								encourages human efficiency	Socioeconomic	Medium		
	serves as an icon for self sufficiency								serves as an icon for integrated design	Socioeconomic	High		
	Is expensive to maintain								Is cheap to maintain	Socioeconomic	Medium		
	is a bad neighbor								is a good neighbor	Socioeconomic	Medium		
	is ugly								is beautiful	Socioeconomic	High		

+ Use the Integrated design checklist for the environmentally sound built environment
+Creat a feasible sustainable solution, using simplistic techniques appropriate to scale and use of the pavilion.
+Abundance of natural lighting, passive ventilation, user comfort, spatial adaptability and reused materials.
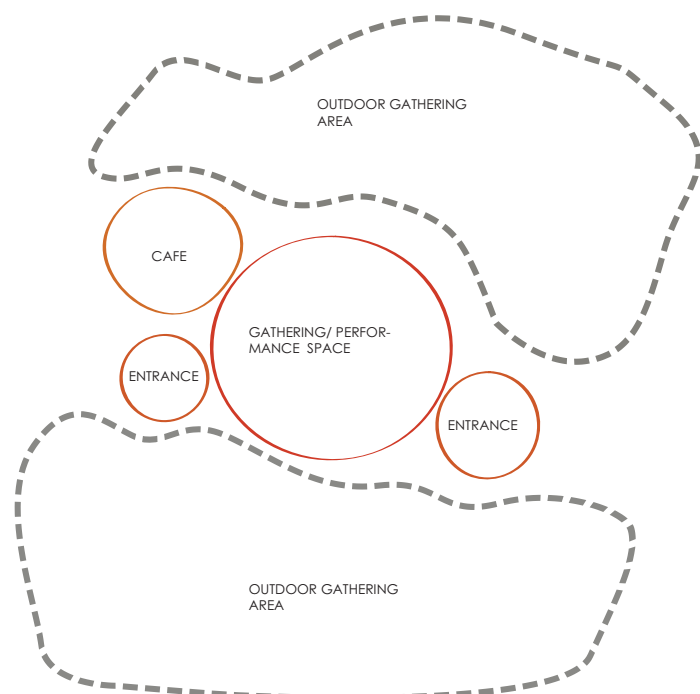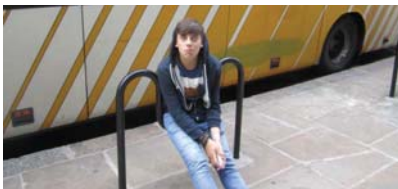+Main structural bays, furniture and lighting features constructed out of local reused bicycles.

+SITE ANALYSIS

+ LOCATION: Serpentine Pavilion.
Hyde Park. London, UK

+ Site adjacent to the Serpentine Gallery

+ Main orientation East/West

+ High traffic areas on SE & SW corners

+ Mature trees surrounding N,E & S sides of the sight

+ Light to moderate foot traffic through site

+ Angled parking on east end of site

+DESIGN PROCESS

OUTDOOR GATHERING AREA

CAFE

GATHERING/ PERFORMANCE SPACE

ENTRANCE

ENTRANCE

OUTDOOR GATHERING AREA

+WHY THE BICYCLE?

+Low embodied energy material.

+Light weight, flexible and structurally sound.

+Highlight and celebrate the increased use of bicycling as a sustainable effort.

+The London Cycling Campaign reports that, over the last decade, cycling journeys have doubled.

+Large availability of resource. It is estimated that close to **27,500 bicycles** are discarded or abandoned each year.http://www.tfl.gov.uk/assets/downloads/businessandpartners/bicycle-recycling-schemes-London-scoping-study-april-2007.pdf

+ THE BICYCLE AS THE STRUCTURE
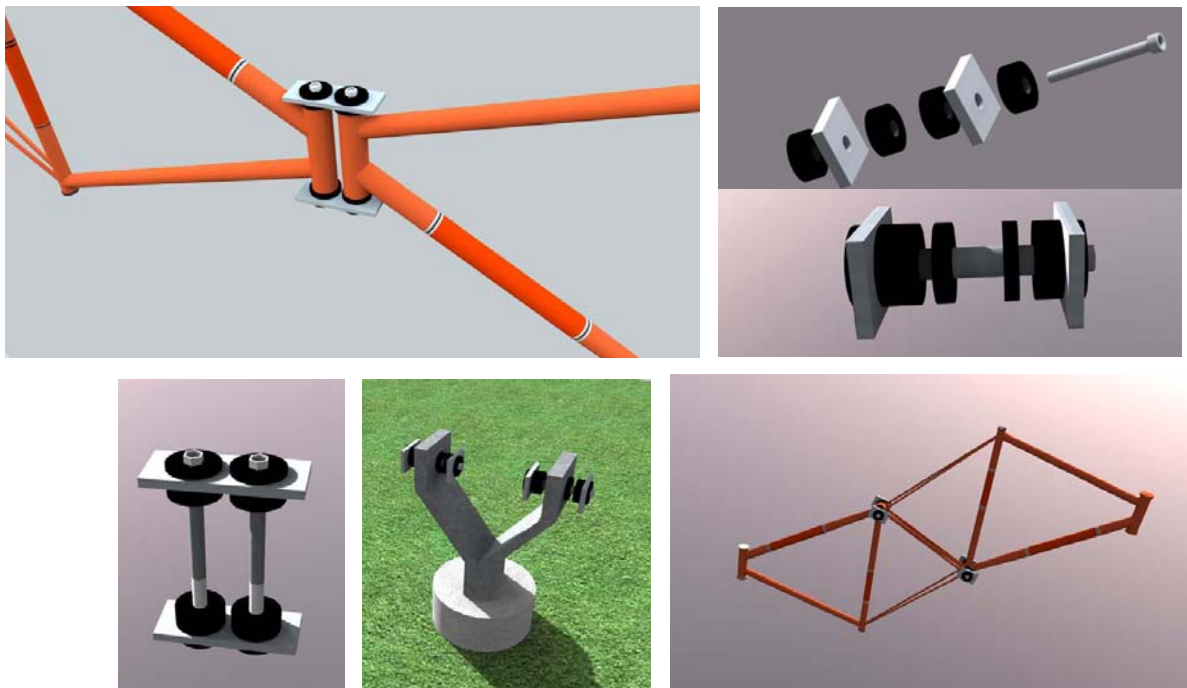
+MATERIALITY

+ Structural Trusses:
+ **600** frames of reused bicycles braced together to create a sound rigid connection.
+ Trusses coated with Low VOC paint.

+ Fabric roof System:
+ PTFE Coated Glass Cloth
+ Low maintenance, high color retention, sound absorption & noise retention

+ Floor Structure:
+ Metal grates with permeable gravel substrate
+ FCS Certified oak flooring & riser seating
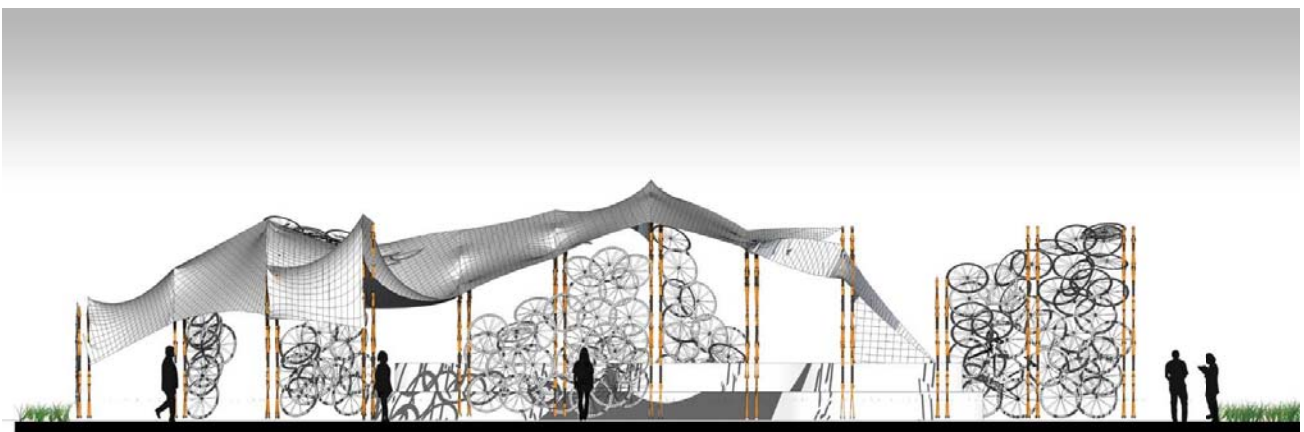
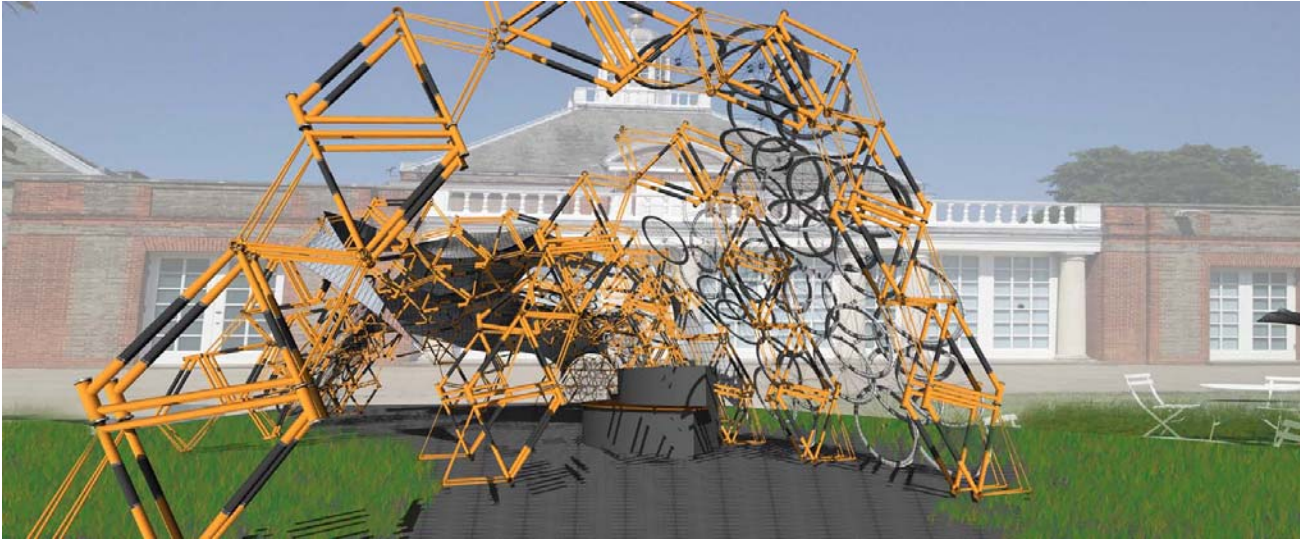+ Nighttime Lighting:
+ LED Lights

+FLOOR PLAN
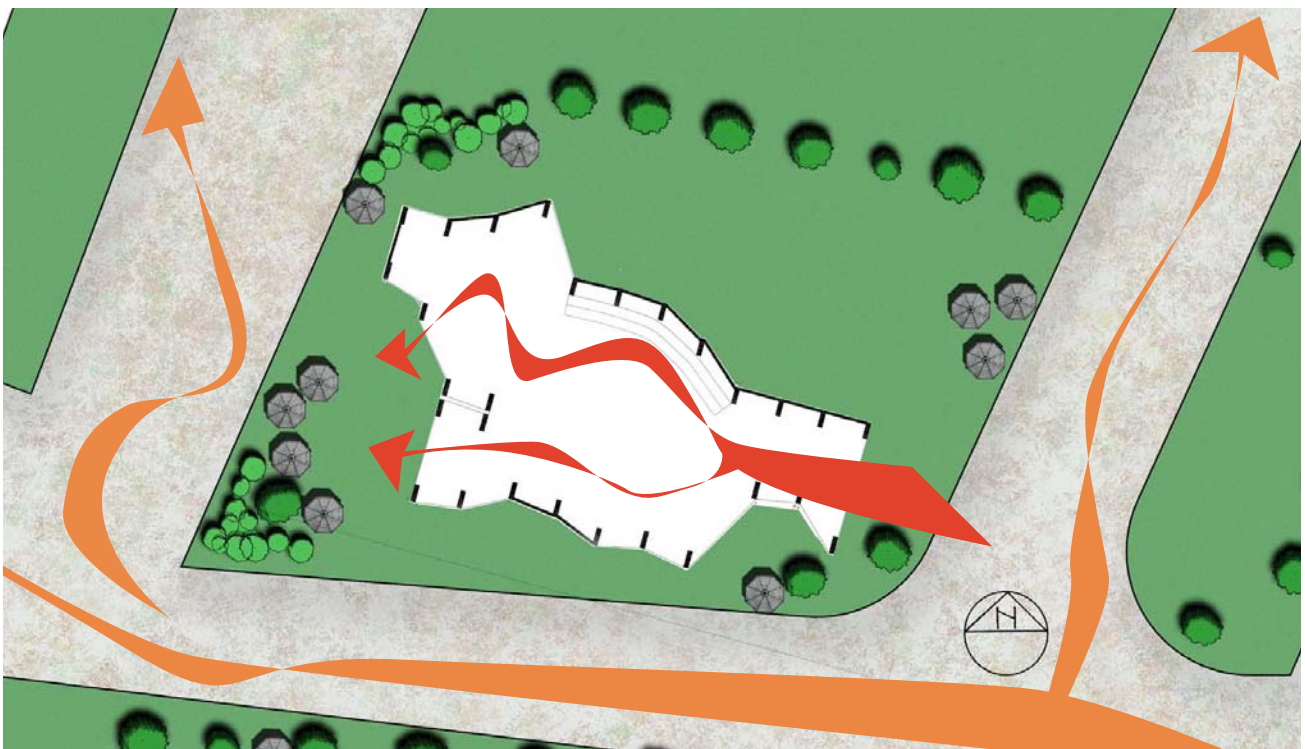
+EAST ELEVATION
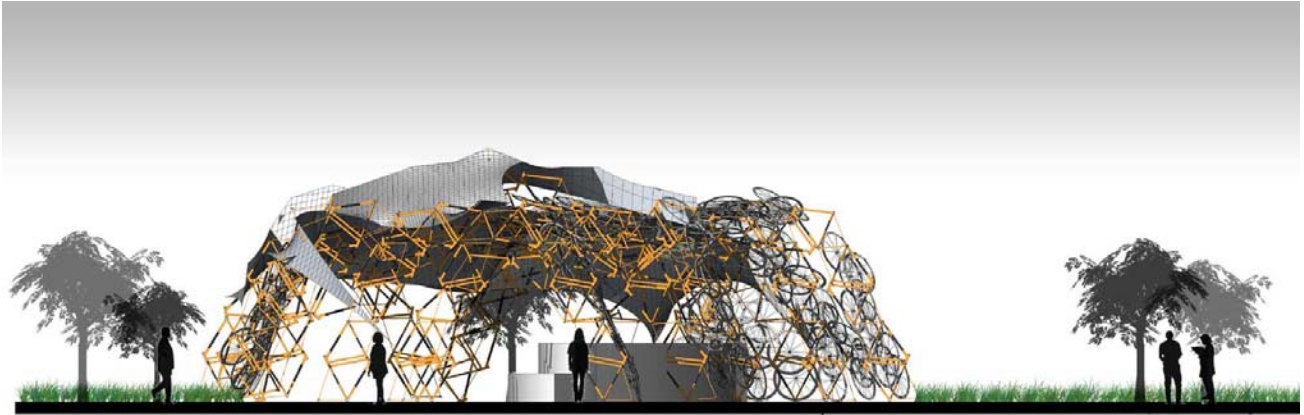
+ main entrance

+SOUTH ELEVATION

+ view from sidewalk

+EXTERIOR PERSPECTIVE

+FLY THROUGH

+

+BOYB CAFE DESIGN

+ BOYB; *Bring Your Own Bike*

+ Cold food to reduce energy loads

+ Bike Up To Bar Seating

+ Reused bicycle decor

+DESIGN RECAP

+ Natural Daylighting
+ LED lighting
+ Passive ventilation
+ Lightweight transportable structure
+ Recycled material
+ Easy installation and demount-ing
+ Inspires and celebrates cycling as a sustainable effort

+THE END.

I WANT
TO RIDE
MY
BICYCLE

http://www.youtube.com/watch?v=GugsCdLHm-Q