

# ELEMENT.TREE



JUSTIN BISE  
DAVID BOYD  
JADA ENDICOTT  
ANTONIO FERNANDEZ

## Project Outline



- Project brief
- Site
- Site analysis
- Concept
- Objectives
- Design development
- Users
- Design plans
- Design features
- Future Use
- Regenerative checklist

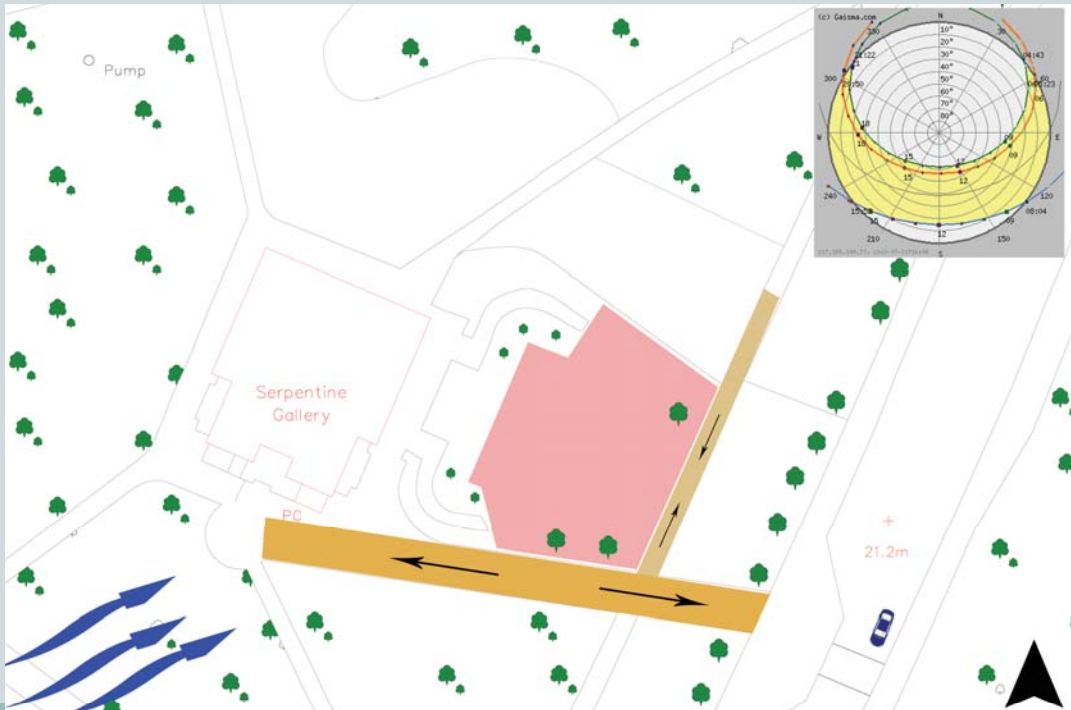
# Project Brief

- Serpentine Gallery Pavilion Commission
- Pavilion should be...
  - Beautiful
  - Environmentally responsible
  - Culturally Relevant
  - Net zero/carbon neutral
- Address:
  - Passive heating/cooling
  - Green construction & materials
  - Reduced energy use
  - Public education
  - Transportation
  - Deconstruction/future use
  - Water/energy conservation

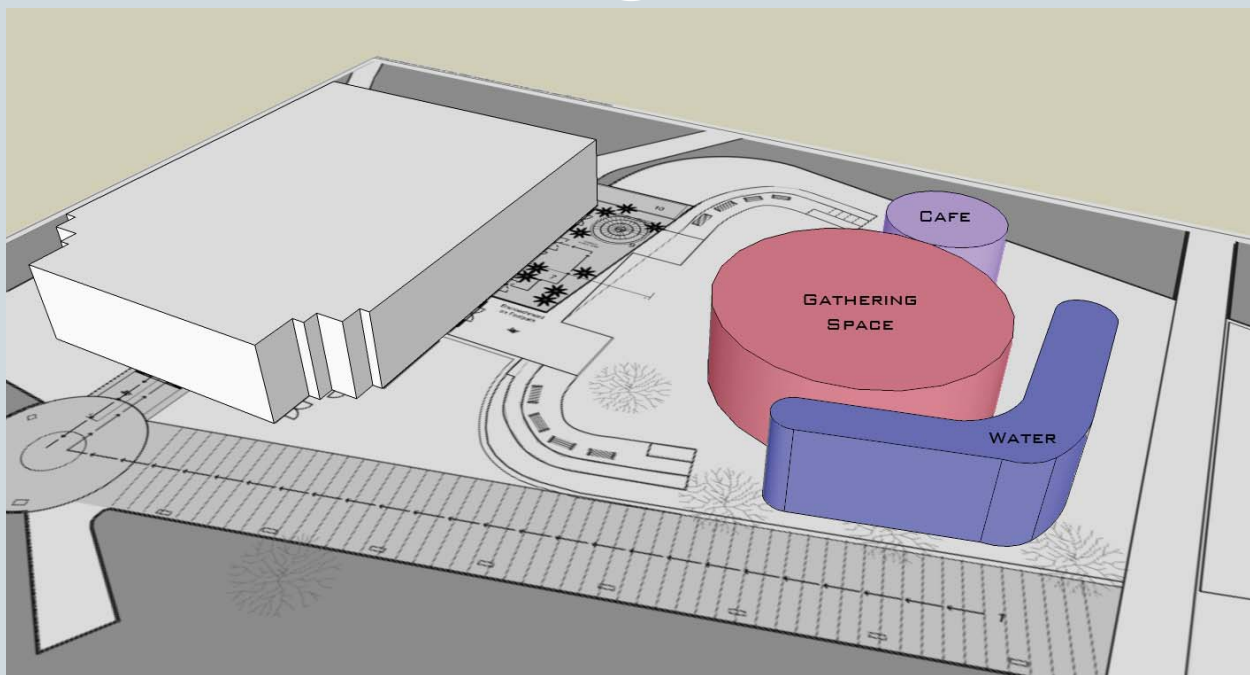
# Existing Site



# Site Analysis



# Massing Diagram



## Concept



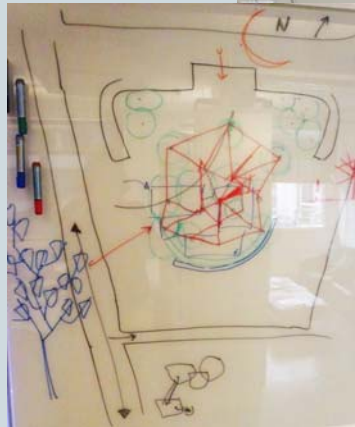
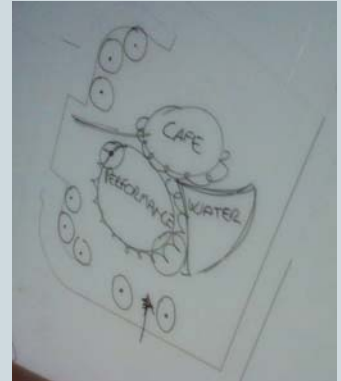
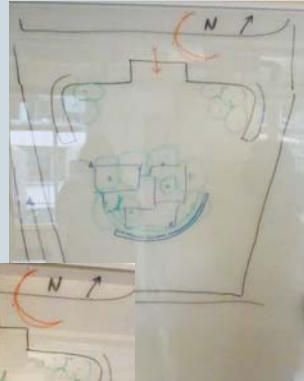
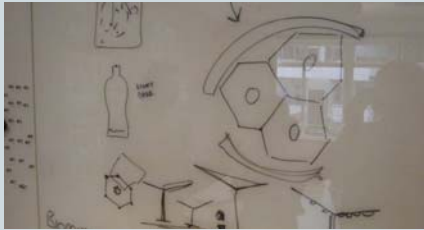
Mimicking nature, the element.tree pavilion invites guests to explore, experience and learn how beautiful regenerative design can be by challenging previous pavilion installations. Element.tree utilizes low carbon materials as well as energy generating technologies and can be dismantled and dispersed as separate art installations after its stay at the Serpentine.

## Goals & Objectives



- **Create an accessible structure**
  - Provide ramps in areas of differing elevations
- **Use passive cooling**
  - Shading by structure canopy
  - Use SW breeze across water feature to cool occupants
  - Hot air will escape through canopy top
- **Interact with surrounding landscape**
  - Users will navigate through planters for entrances
- **Structure must regenerate elements**
  - Solar panels produce electricity for cafe
  - Solar thermal to provide cafe with hot water
  - Indigenous plants will provide fruit and vegetables as well as clean air

# Design Development



# Concept Perspective



# Users



PEDESTRIANS

STAFF

PERFORMERS

TOURISTS

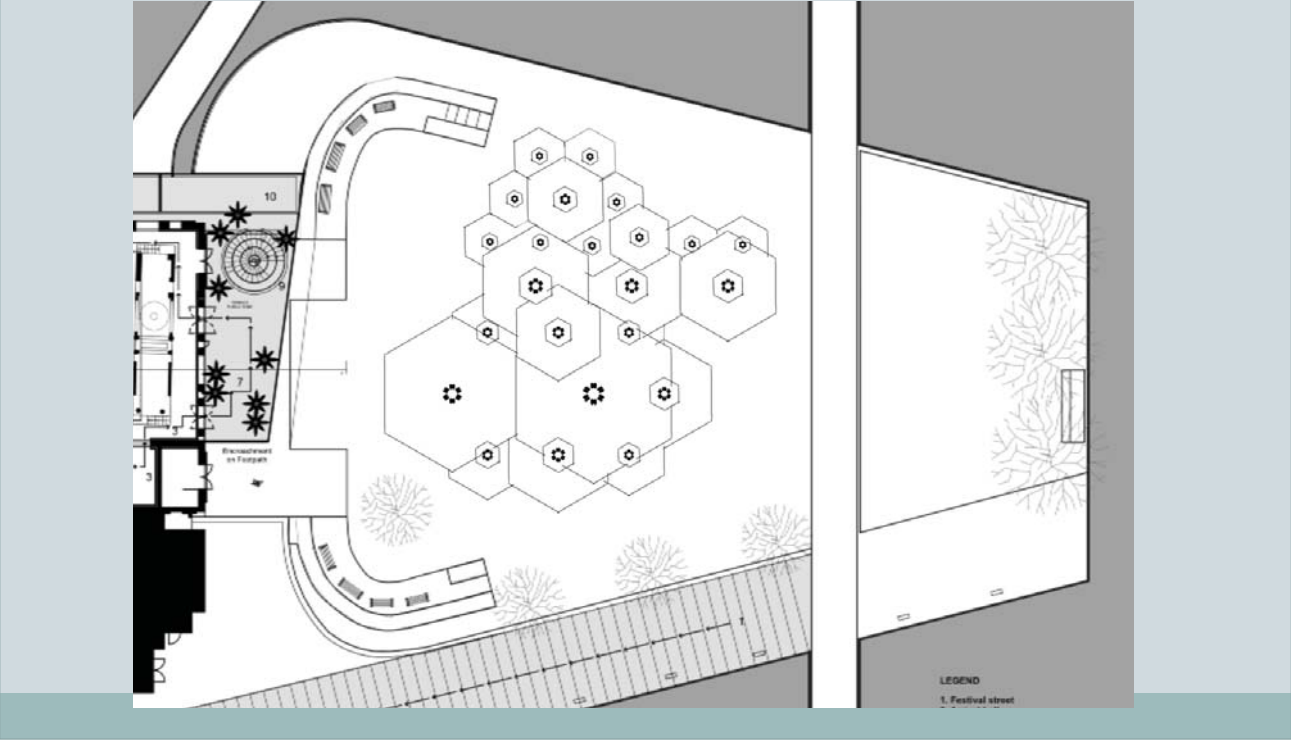
CYCLISTS

# Design Plans

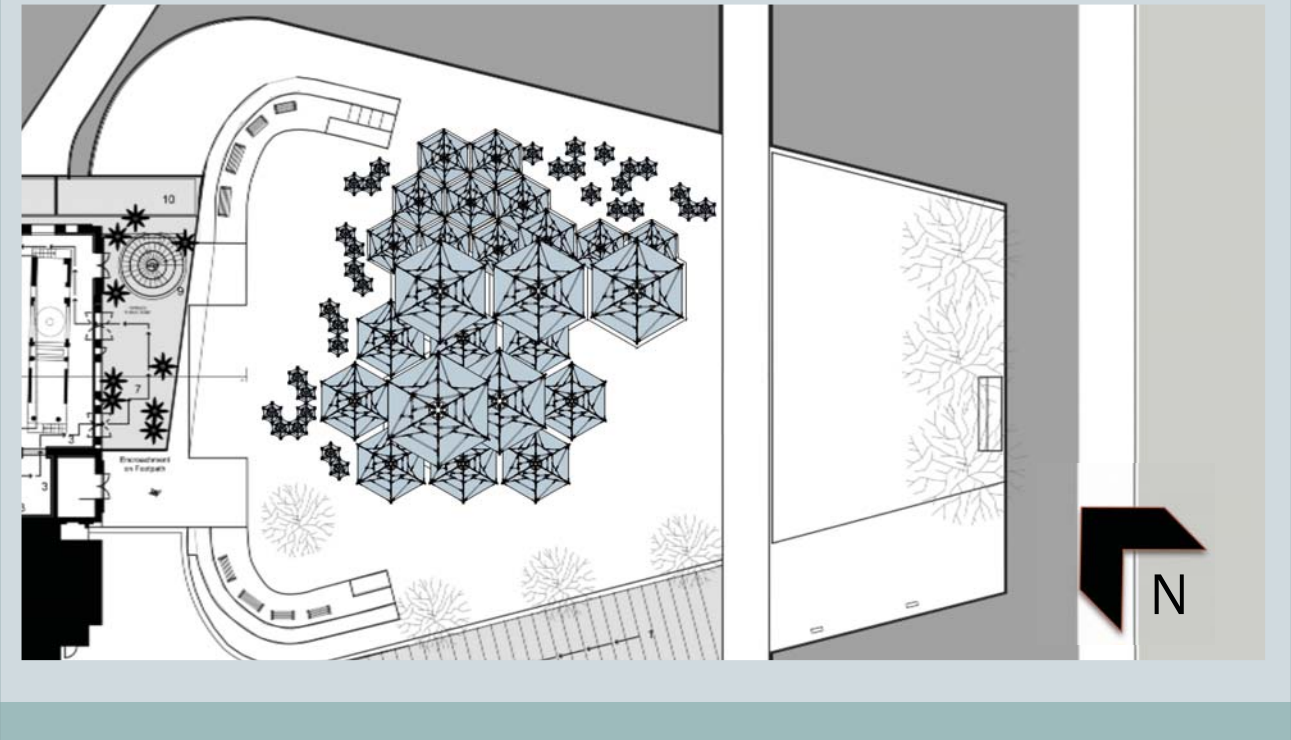


FLOOR PLAN  
SITE PLAN  
SECTIONS  
PERSPECTIVE  
DIAGRAMS

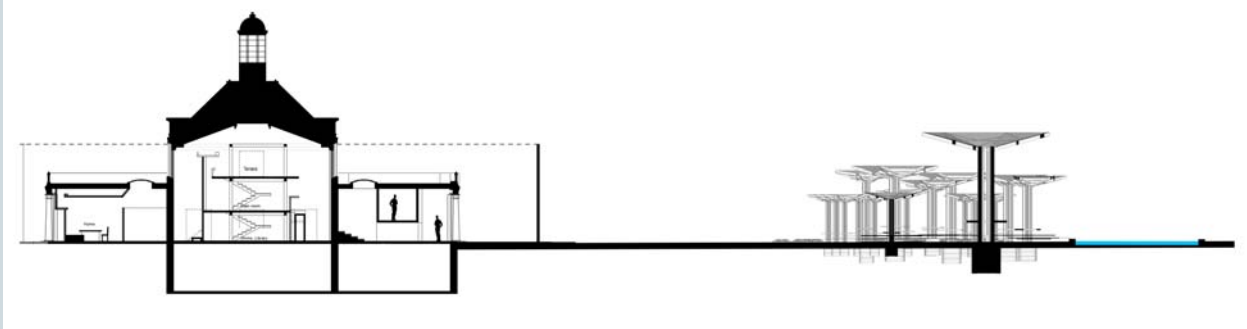
# Floor Plan



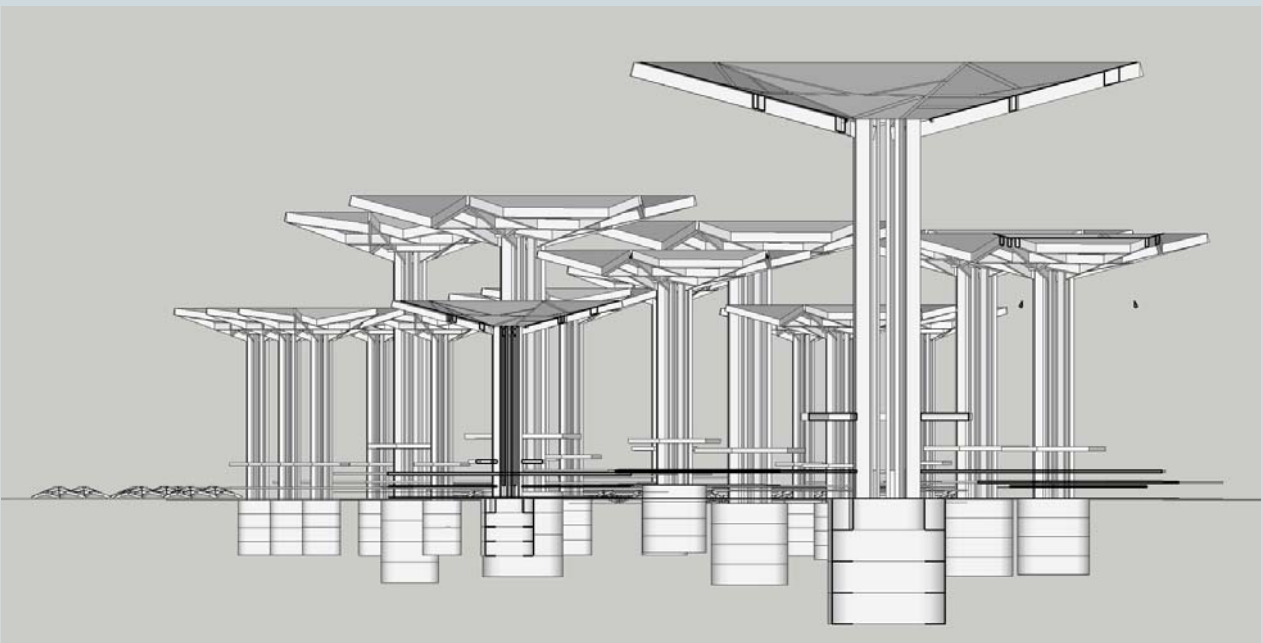
# Roof Plan



# Section

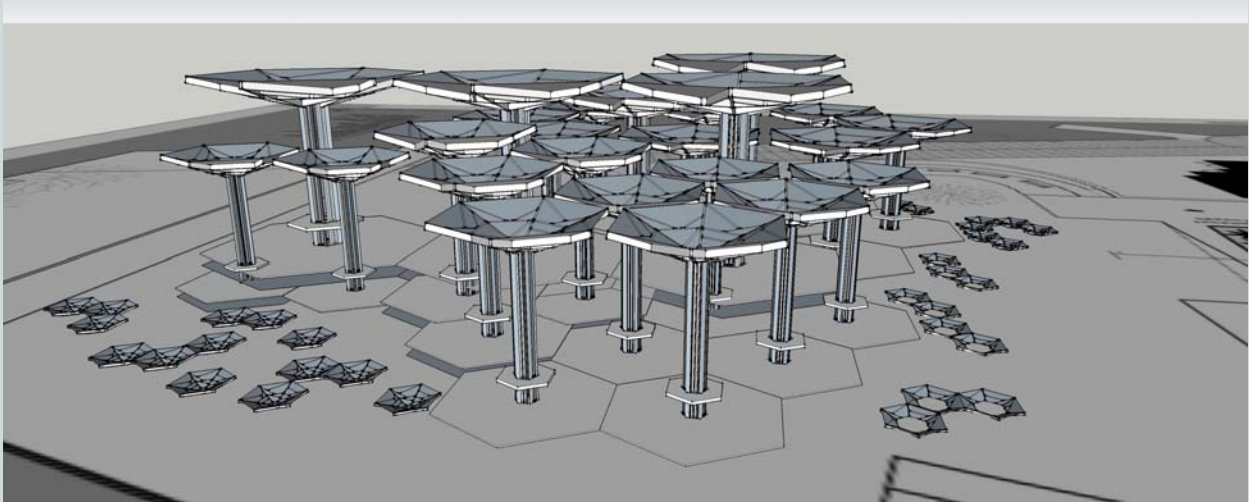


# Pavilion Section

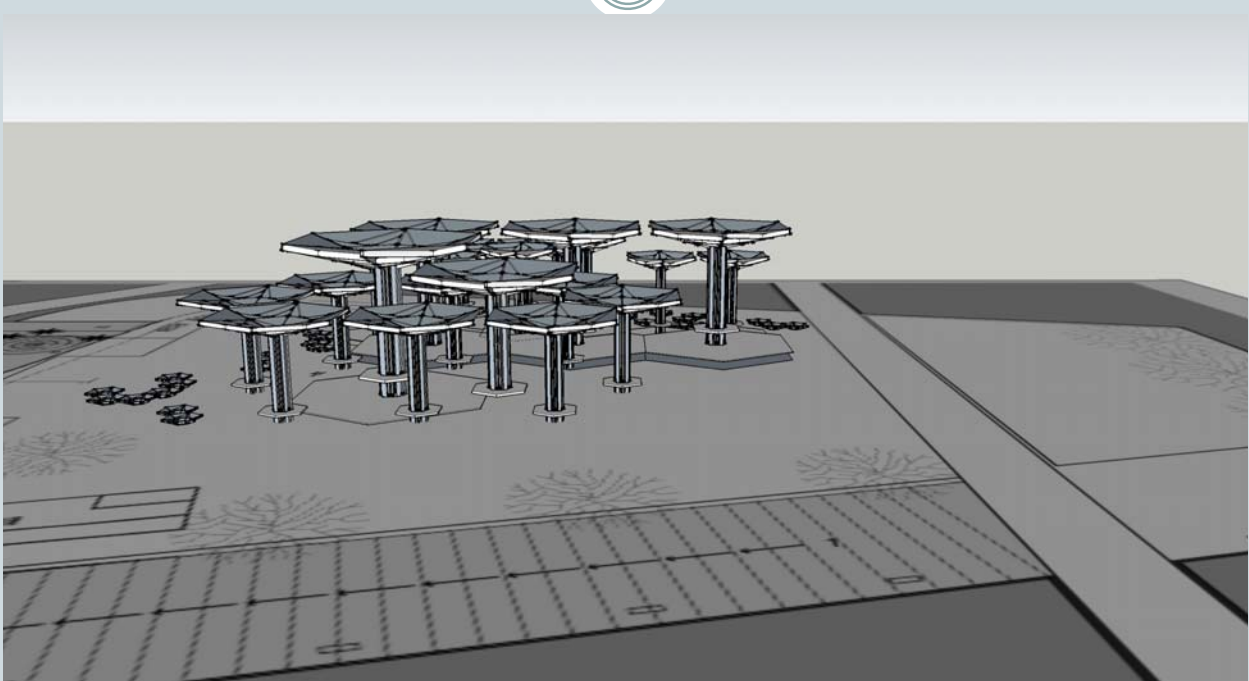




# North Perspective



# South Perspective



# Perspective

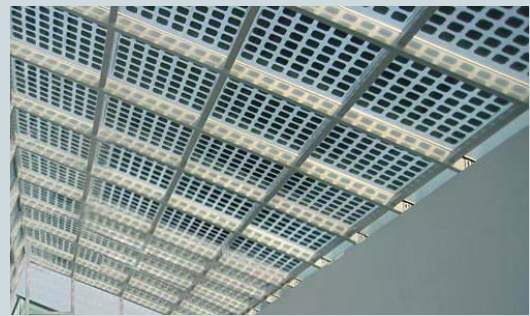


# Green Elements

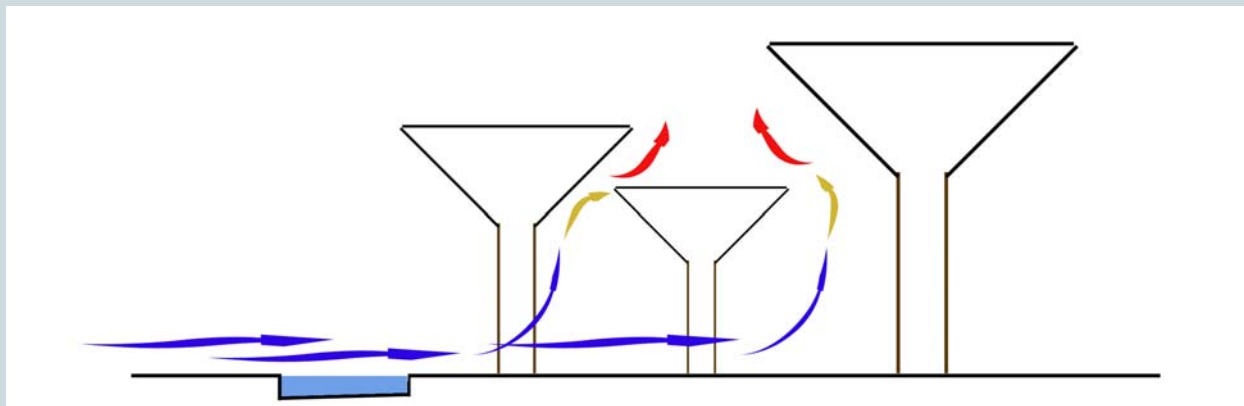


PASSIVE & REGENERATIVE  
BENEFITS TO OUR DESIGN

# Low Carbon Materials & Energy Generation Technologies

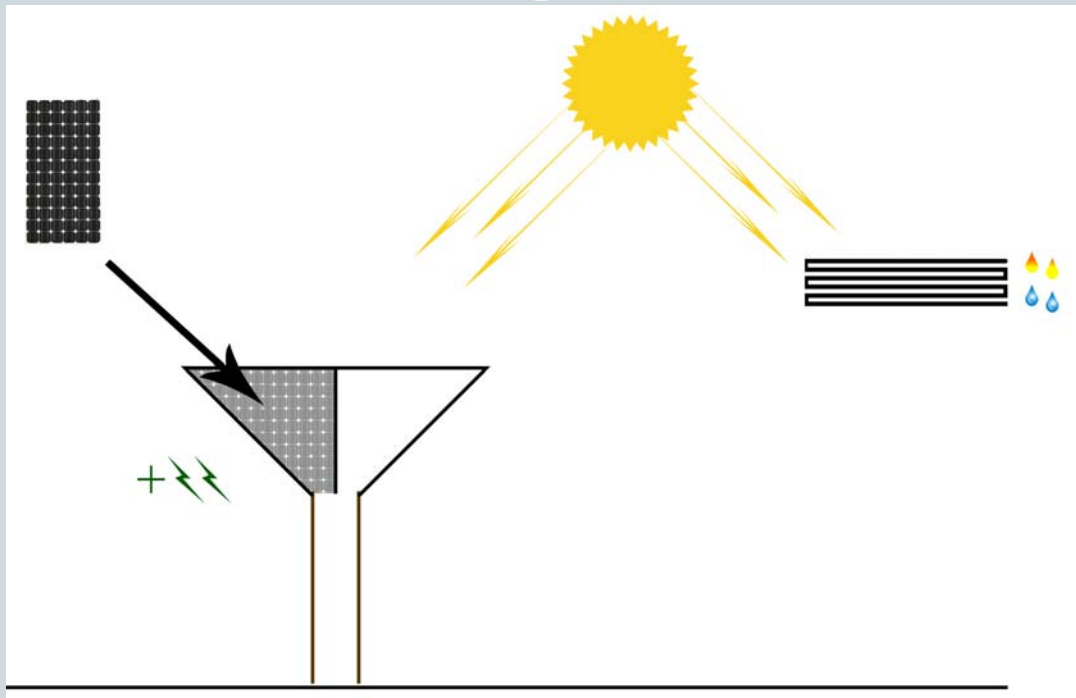


## Passive Cooling

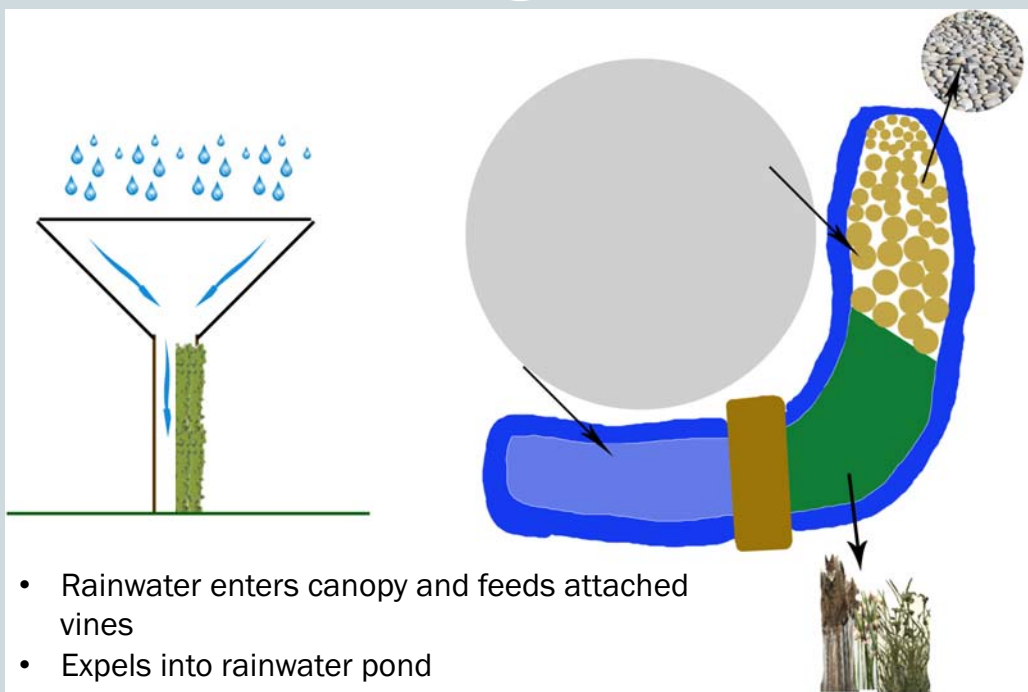


- Summer winds from SW blow across rainwater pond and cool visitors
- Heat rises up through canopy

# PV & Solar Thermal Integration



# Water Use



- Rainwater enters canopy and feeds attached vines
- Expels into rainwater pond

# Indigenous Summer Plants



- Cleans air
- Produces food for consumption
- Can be used at cafe

## Wild edible plants in London



*Celadine*



*Chicory*



*Alfalfa*



*Dandelion*



*Borage*



*Chickweed*



*Broadleaf Plantain*



*Coltsfoot*



*Chamomile*



*Cattail*



*Creeping Charlie*



*Burdock*

# Disassembly & Dispersement



## Hackney Town Square



# Regeneration-Based Checklist

	degeneration			sustainability			regeneration			
	-100 always	-75 usually	-50 sometimes	-25 a bit	0 balances	25 a bit	50 sometimes	75 usually	100 always	
planet	imports all its energy									exports energy from site
	emits carbon									uses no carbon-emitting energy sources
	pollutes air									cleans air
	pollutes water									cleans water
	wastes rainwater									harvests rainwater
	consumes food									produces food
	destroys rich soil									creates rich soil
	dumps wastes unused									uses wastes as resources
	destroys wildlife habitat									provides wildlife habitat
	imports energy									exports energy
	decreases population density									increases population density
	promotes fuel-powered transportation									promotes pedestrian and transit access
site	creates uncomfortable micro-climates									creates comfortable micro-climates
	ignores building size issues									optimizes building size
	excludes natural light									uses natural light effectively
	uses mechanical heating									uses passive heating
	uses mechanical cooling									uses passive cooling
	produces human discomfort									enhances human comfort
	uses inefficient equipment									uses highly efficient equipment
	uses non-renewable fuel-powered circulation									uses human-powered circulation
	pollutes indoor air									enhances indoor air quality
	needs cleaning and repair									maintains itself
	uses virgin materials									uses recycled materials
	cannot be recycled or reused									can be recycled or reused
building	serves as an icon for the apocalypse									serves as an icon for regeneration
	is a bad neighbor									is a good neighbor
	is crassly ugly									is sublimely beautiful

negative score 2700 possible -25	positive score 2700 possible 2,000
--	--

final score:  
**+1,125**

Thank You!

QUESTIONS?