MONMOUTH UNIVERSITY | HONORS SCHOOL

REDESIGNING *OUR* ARCHITECTURE

TO CREATE SUSTAINABLE COMMUNITIES

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Our buildings contribute to climate change.

40% of all greenhouse gas emissions are due to buildings, including related infrastructure.

Green buildings can help with this and benefit many. In comparison with regular buildings:

AVERAGE COSTS ↓ **2%**

ASSET VALUE ↑ **7%**

They leave a green impact on the Earth as well as change the way of life for both individuals and communities.

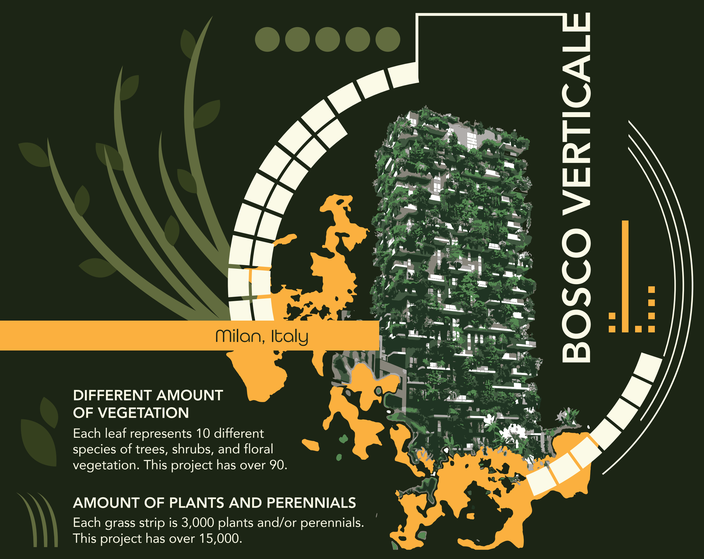
One is more likely to invest and/or look into it with effective branding and impression. Understanding who benefits from what and properly communicating this is crucial.

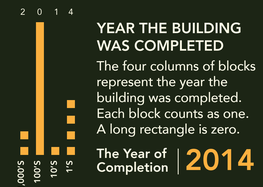
Data and information visualization works with the graphic depiction of data and information. It is a very effective method of communication when there are lots of facts or information, which is why this is the medium for this study.

Let us take a look at three different types of buildings: residential, office, and education.

RESIDENTIAL

These apartment buildings include architectural diversity that focuses on the interactions between people and other life forms.





YEAR THE BUILDING WAS COMPLETED
The four columns of blocks represent the year the building was completed. Each block counts as one. A long rectangle is zero.

The Year of Completion | 2014

ABSORBING CARBON DIOXIDE PER YEAR
Each line represents 10 tons of carbon dioxide. This project is able to absorb 30 tons.

THE HEIGHT OF THE BUILDINGS
Each block represents 10 meters.
Building 1: about 110m
Building 2: about 80m

AMOUNT OF YEARS IT TOOK TO BUILD
Each block represents 1 year. This project took place from 2007-2014.

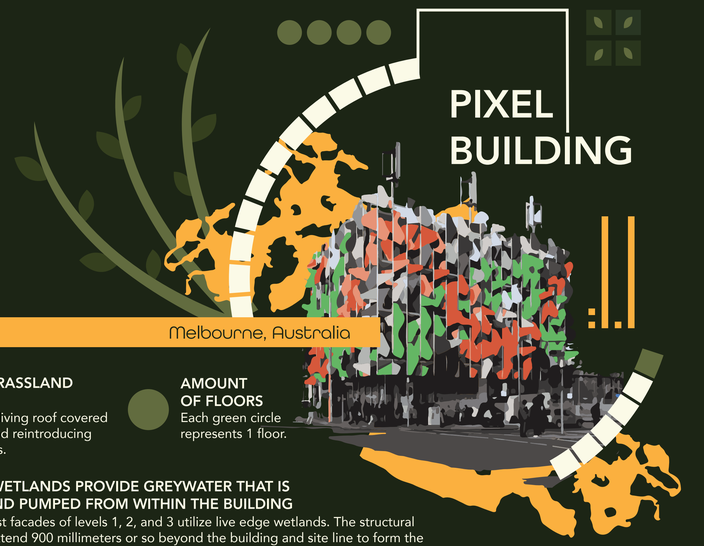
AMOUNT OF SHRUBS
Each green circle represents 1,000 shrubs.

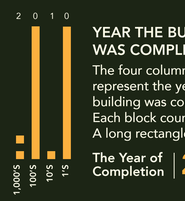
DIFFERENT AMOUNT OF VEGETATION
Each leaf represents 10 different species of trees, shrubs, and floral vegetation. This project has over 90.

AMOUNT OF PLANTS AND PERENNIALS
Each grass strip is 3,000 plants and/or perennials. This project has over 15,000.

OFFICE

The first carbon-neutral office building in the country that generates its own power and collects its own water for a future world with carbon restrictions.





YEAR THE BUILDING WAS COMPLETED
The four columns of blocks represent the year the building was completed. Each block counts as one. A long rectangle is zero.

The Year of Completion | 2010

GROSS FLOOR AREA
Each block represents 100 meters. This building is about 1,100m2 of floor area.

VACUUM TOILETS REDUCE WATER CONSUMPTION
Each block corresponds to 1 liter of water used for flushing (6 liters). The light green block depicts how the vacuum toilets consume just roughly one liter of rainwater per flush as opposed to a traditional system's six liters.

SOLAR AND WIND ENERGY
On the roof are wind turbines and a number of fixed and tracking solar panels. This lowers the building's carbon footprint.

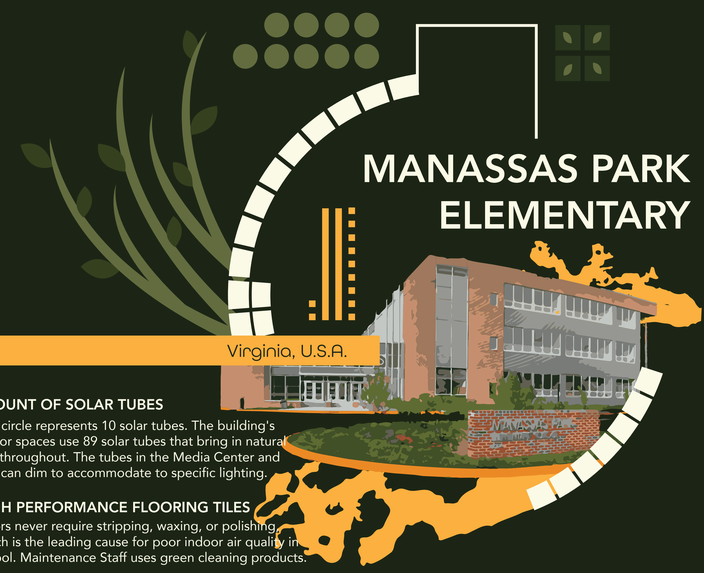
INDIGENOUS GRASSLAND GREEN ROOF
The building has a living roof covered in native grasses and reintroducing Victorian grasslands.

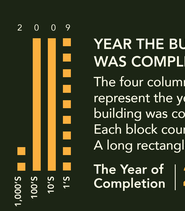
AMOUNT OF FLOORS
Each green circle represents 1 floor.

LIVING EDGE WETLANDS PROVIDE GREYWATER THAT IS COLLECTED AND PUMPED FROM WITHIN THE BUILDING
The north and west facades of levels 1, 2, and 3 utilize live edge wetlands. The structural slab edges that extend 900 millimeters or so beyond the building and site line to form the living edges provide a tapered concrete contour. Each leaf is equivalent to 100mm.

EDUCATION

It is possible to offer opportunities not available in conventional school construction by combining sustainable building practices with innovative teaching methods.





YEAR THE BUILDING WAS COMPLETED
The four columns of blocks represent the year the building was completed. Each block counts as one. A long rectangle is zero.

The Year of Completion | 2009

GROSS FLOOR AREA
Each block represents 10,000 feet. This building is about 131,000 gsf.

CONSTRUCTION WASTE USED
Each block represents 10% of construction waste. When the school was being built, more than 70% of the construction waste was salvaged from landfills.

ECOLOGICAL DIVERSITY
There was a re-vegetation of native warm season grasses and wildflowers in wider distributed areas in order to replicate the savanna landscapes fashioned by the Native Americans of the eastern woodland. Children are shown landscapes in a way that helps them understand the importance of water in their daily lives.

AMOUNT OF SOLAR TUBES
Each circle represents 10 solar tubes. The building's interior spaces use 89 solar tubes that bring in natural light throughout. The tubes in the Media Center and Gym can dim to accommodate to specific lighting.

HIGH PERFORMANCE FLOORING TILES
Floors never require stripping, waxing, or polishing, which is the leading cause for poor indoor air quality in school. Maintenance Staff uses green cleaning products.