



PROJECT:

Brookfield Zoo Immersion Learning Center

CLIENT:

Brookfield Zoo, Chicago

ARCHITECTS:

Wight & Company

BM SERVICES:

Sustainable Design

VALUE:

\$7.5million

DESIGN BRIEF

The Brookfield Zoo - Immersion Learning Center is to be an exceptional building showcasing the state of the art in sustainable design, which will create the standard for sustainable learning facilities in the US.

This building is to be designed in response to these major global issues and take into account the local climatic conditions in Chicago in order to reduce the construction, installation and the operational impacts of the various engineering elements of the building on the environment.

This requires that the careful selection of the building materials and the construction techniques and the careful consideration of the orientation of the spaces, natural light, solar energy and the winds, which should be harnessed and harvested to the full.

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DESIGN INITIATIVES/ACTIONS UNDERTAKEN

The concept design has responded to these demands by proposing an innovative combination of passive cooling and ventilation techniques, and the intelligent optimisation of the building systems to create a unique solution that meets the client's design brief whilst designing the bio-climatic systems to capitalise on climatic forces prevalent at certain times of the year.

The design achieves the following key integrated environmental objectives:

- Landmark sustainable building that reflects Brookfield Zoo's commitment Sustainability
- High quality internal environment, with the creation of spaces that inspire "Eureka" moments and promote learning
- Naturally daylit spaces that couple with external seasonal and diurnal variations in light levels, tone and colour, creating a more natural environment enhancing staff and student well-being and productivity
- Mixed mode systems to take advantage of natural ventilation with additional mechanical cooling and heating during summer and winter, wherever possible; restoring control to the individual increasing comfort and worker satisfaction
- A climate responsive development, with orientation and massing designed to minimise adverse impact of the site, whilst maximising the potential benefits of the climatic forces
- Significant energy reductions, coupled with the use of renewable energy sources leading to a zero carbon development
- Optimisation of low embodied environmental impact materials and the use of recycled materials and optimisation of prefabrication of primary structural elements for quality and speed of erection
- On-site water collection (rain and grey water) and treatment, eliminating the requirement for off-site irrigation connections