DOWNLOAD PDF BNIM ARCHITECTS: NURTURE

Chapter 1 : Books by David Lake (Author of The Annual World's Best SF)

The National Architecture Firm Award Winner, BNIM is an innovative leader in designing high performance environments. Through an integrated process of collaborative discovery, we create transformative, living design that leads to vital and healthy organizations and communities.

The atrium was sized based on computer modeling. It was immediately apparent that a highly integrated design was necessary to meet the challenges and achieve these goals. The six categories of sustainable design, as identified in LEED, served as the general outline for the approach that the team followed in documenting the sustainable design strategies of the project: Light trespass is reduced from the building site by the careful placement of directed and shielded outdoor light fixtures and an overall reduction in the use of exterior illumination. The building occupies almost the entire available site within the dense campus environment and was constructed over an existing building site; the previous building was deconstructed by the university as phase one of the new construction project. Because of the limited parameters of the site, the roof represents a majority of the site surface area. To address runoff, portions of the roof were designed as green roofs, and the balance of the roof area mitigates heat gain through its design. The architectural design of the school encourages users to enter the landscape. The double-height breezeway is cool and shaded, even during the hottest Houston days. An elevated walkway bridges the breezeway and connects to second-level balconies that are nestled into the trees. Spaces located adjacent to the park,including the auditorium, take advantage of the daylight and views. Establishing inviting outdoor spaces was key to the site development. A meditative labyrinth adjacent to the facility enhances the presence of the adjacent park. The local ecology is very important to the UT School of Nursing. Trees in the park to the east of the building provide critical shade, and onsite landscaping and plant materials also play an important role. These plantings are irrigated by rainwater that is harvested and stored on site and require very little maintenance. Some seasons bring rain and floodwater, while at other times drought and heat challenge plantings and the landscape. The design approach addresses both of these conditions and reduces the amount of potable water consumed by the building, as well as the amount of wastewater leaving the premises. LEFT Ninety-five percent of the potable water demand is met by harvesting rainwater from the roof and collecting it in cisterns for later use. The stormwater-management design greatly reduces storm runoff through the use of pervious paving systems, green-roof technology and site design that detains rainwater and slows or delays the discharge rate. This rainwater is stored in five 30,gallon cisterns that capture approximately , gallons of water annually. This water is used for flushing toilets and landscape irrigation on site and at the adjacent UT School of Public Health. Waterless urinals and low-flow toilets, lavatories and shower heads further reduce potable water use. The cumulative impact of all of these strategies results in a significant reduction in total water use for the building. Sixty-five percent of the total water used in the facility comes from reclaimed sources. Landscaping and plant materials also play an important role in the water efficiency. Utilizing indigenous, low-maintenance plant materials for the planted areas surrounding the building contributes to a dramatic reduction in potable water use. To improve flood protection, the first floor is elevated above the year flood line, the building has no basement, and primary and backup power are located on the second level of the service building situated to the south. Air quality was a consideration for both the occupants of the building and the construction team, who might normally be exposed to volatile organic compounds VOCs. The team developed an air-quality management plan for the construction and pre-occupancy phases that would benefit the builders and also flush the building of impure air as it was prepared for occupancy. Ambitious goals for indoor air quality were attained through selection of healthy materials, isolating and exhausting the sources of indoor pollution, using a flexible, occupant-controlled ventilation system and adequate commissioning prior to occupancy. The building promotes indoor air quality and a healthy environment through the selection of materials and access to natural ventilation. The paints, adhesives, sealants, carpets and furniture systems were selected for their low emission of VOCs. A raised floor with underfloor air distribution accommodates workplace reconfiguration as the needs of the program change. This type of air distribution system increases energy efficiency as air can be delivered at higher temperatures and provides increased thermal comfort for building users the air is cleaner and not forced downward , while allowing the building occupants to have some individual control via floor diffusers for increased comfort. The building is both sheltering and nurturing, while retaining an open plan to facilitate collaboration and improve communication between floors, departments and the campus beyond. The windows provide views and abundant daylight. Meeting rooms and workspaces on the upper levels open onto three atria with translucent baffles to diffuse daylight. A thoughtful envelope design addressed the external factors by integrating numerous passive strategies to minimize direct solar heat gain and maximize use of natural light. People, equipment and electric lighting would generate the primary energy loads. The team also utilized mechanical systems and the lighting strategies to approach these internal issues. First, the building was designed around a mechanical system that employed a displacement air system using an underfloor air distribution system with low-face velocity coils and chilled water from the central campus system. The benefits of the reduced air-handling-unit fan horsepower and focused cooling of the occupied zone include long-term flexibility, individual user controls, low noise emission and energy efficiency. The second important strategy for meeting the energy-use reduction goal was the lighting approach. Daylighting is used throughout the building to provide illumination for as much of the day as possible. This design approach greatly reduces the need for interior cooling to offset the heat generated by even the most efficient electric lighting systems. Occupancy sensors and dimmers are also used to limit lighting loads. The design of the building envelope captures appropriate daylight and rejects unwanted heat and glare with passive strategies including light shelves, vertical fins, window placement and building orientation. Each elevation responds to specific issues related to the sun and, therefore, varies greatly. On the inside, the skylights atop the atria function similarly, allowing daylight, but not heat, to penetrate deep into the building. Beyond these two primary strategies, the building was designed to support the future addition of photovoltaic panels on the roof for renewable energy generation. Many studies and energy models were used throughout the design process. Both the budget and design energy cases were modeled in VisualDOE version 2. The energy cost savings represents the difference in purchased chilled water, electricity and gas costs between the ASHRAE A fully collaborative process implementing the contributions of many, was extremely important to achieving the design and the final resolution. The design team set out to use locally sourced, durable materials in the highly specialized building skin to encourage long life, promote the local economy and reduce environmental impact. As much as possible, the materials selected have recycled content and contribute to the goal of enduring for years and beyond. Sophisticated , a tool that life-cycle analysis was done using Baseline GreenTM aids project teams in understanding the upstream and downstream impact of their decisions regarding materials. The exercise even generated an estimate of how many jobs this project produced or sustained by using local materials. According to the tool, upstream impacts associated with the building were reduced by approximately 2, lbs of toxic air pollutants and nearly lbs of toxic water pollutants as compared to the baseline building. At the time of design, commonly available demountable wall systems did not conform to the standards established for air quality, recycled content, sustainably harvested woods and other sustainable design goals. After research and investigation with the major manufacturers, the design team proposed a process that dramatically improved the sustainability of the wall products. Green specifications were developed that eliminated VOCs, required FSC-certified wood, improved recycled and recyclable systems, reduced waste in manufacturing and made the manufacturing process environmentally better. The demountable partitions are critical to optimizing flexibility and savings over the life of the building. The manufacturer advised the team regarding finishes and module sizes for the integration of the floor, carpet, furnishings and lighting in an economical way. The team used a inch module as a base, making it efficient to switch door and wall-panel locations. All device locations were pre-drilled and have no panel-to-panel electrical connections allowing pop-in, pop-out interoperability. The salvaged brick comes from a demolished Austin, Texas warehouse. The cypress siding is cut from sinker cypress logs reclaimed from the bottom of the Mississippi River after sinking over years ago. A high recycled content is specified in new materials such as exterior aluminum panels, window framing, structural steel and concrete. The contractor investigated optimal fly-ash percentages for balancing structural performance, embodied energy, constructability, schedule impact and cost implications. After a thorough analysis, the results determined that the benefits of utilizing fly ash were significant with no cost or schedule premium. This proved to be a critical process for the project. The building that once occupied the site was deconstructed, and 4, tons of construction waste were salvaged. These materials include concrete, wood, site debris, masonry and scrap metal. A thousand square yards of carpet were returned to DuPont, The building was designed for a long life and loose fit. The main structure and its building skin were designed to be highly durable and easy to maintain to ensure that the facility is functional for at least years. In addition to constructing a lasting building that can be easily maintained, the design team moved the exit stairs to the exterior. The exit stairs are naturally ventilated, while shared support facilities reduce the building square footage. From an operational standpoint, the building itself is highly pedagogical, placing on display many of the systems that are integral to its sustainability including rainwater storage tanks, daylighting components and innovative materials. In addition, an educational program was put in place to teach about the design of the building. Each aspect of the building, including the exterior envelope, has inextricable relationships with the building systems. A raised floor with underfloor air distribution allows individual temperature controls as well as workplace reconfiguration and will accommodate changes to the electrical system over time.

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Chapter 3 : Nurture by BNIM - Issuu

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Chapter 4 : Creating environments that enrich communities and nurture life | Lake Flato

*BNIM: Nurture (BNIM Architects) [Steve McDowell, David Lake] on calendrierdelascience.com *FREE* shipping on qualifying offers. A school of nursing must embody compassion and ease, protection and inspiration. This book highlights the architectural interpretation of these properties in the BNIM- and Lake/Flato-designed School of Nursing at the University of.*

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BNIM: Nurture (Bnim Architects) by David Lake (Contributor), Steve Mcdowell (Contributor), Rodolphe El-Khoury (Introduction), Andrew Payne Paperback, Pages, Published

Chapter 7 : Steve McDowell (Foreword of Green Bim)

Generous Pragmatism in BNIM Architects + Lake | Flato's School of Nursing. Introduction by Andrew Payne + Rodolphe el-Khoury. Behind the recent brouhaha concerning the building as spectacle.