

# Museum of the Built Environment

Riyadh, Saudi Arabia

**Owner**

King Abdullah Financial District

**Architects**

FXFowle

**Completion Date**

2014

**Total Area**

324,000 sf

**Certification Level**

Seeking LEED Silver

**Services Provided**

Sustainability Consulting



The Museum of the Built Environment is part of a 55-million-square-foot mixed-use development within the King Abdullah Financial District. The 340,000-square-foot museum will house galleries, a 150-seat auditorium, restaurant, monorail station and network of elevated walkways. The design was inspired by nearby world heritage sites that feature rock-cut architecture and adobe. Fore Solutions, acquired by Thornton Tomasetti in 2012, served as the sustainability consultant during concept and schematic design.

The project team focused on pushing the boundaries of sustainable practices and low-energy design in pursuit of a high-performance building. Creating a comfortable interior environment was a major project challenge because of the harsh desert climate where temperatures fluctuate as much as 50 degrees within a 24-hour period. The team developed a new consulting approach, called sustainability programming, to help guide the design team to maximize the potential for natural ventilation, daylighting and energy performance during the programming phase. This strategy maximizes energy and space efficiency as well as save time early in the process.

Solutions included thermal massing and indirect daylighting techniques inspired by indigenous building practices already used in the area for centuries. Examples of proposed solutions included an east-facing clerestory that takes advantage of natural light, a light shaft that illuminates underground parking and natural ventilation that takes advantage of cooler night air. Sustainability services also included climate analysis, biomimicry consulting, natural ventilation studies, daylighting studies, sustainability programming and materials research.