



BUILDING SPECIFICATIONS AND 2000-2001 EXPANSION/RENOVATION HIGHLIGHTS

Site Location
5020 John R Street
Detroit, MI 48202

Square Footage
120,000 sf (Total)
80,000 sf (New)
40,000 sf (Renovation)

Total Site Cost
\$25 million

Cost per Square Foot
\$115/sf

Capacity
3,900

Owner
The New Detroit Science Center

Completion
July 2001

Project Team
Neumann/Smith & Associates
BEI Associates
Russell Design
Walbridge Aldinger

Located in the heart of Detroit's Cultural Center, the Detroit Science Center has long been a City icon and is architecturally one of its most dramatic buildings. The provocative original design provided exhibit space in a stainless steel box suspended by two towers over a red tile drum that enclosed the top of the IMAX® *Dome* Theater. Over the years, tiles on the towers and exposed plaza suffered significant deterioration. The Science Center wanted to address damage as well as future exterior maintenance issues while doubling in size, giving it the capacity to serve more than 500,000 visitors each year. The challenge was to achieve program goals within a very tight budget ... roughly one-third the dollars per square foot used to build most contemporary American museums.

The design team worked closely with the University Cultural Center Association and the City Planning Department to develop appropriate solutions and expedite approvals, including a number of zoning variances which allowed the building to be built close to the prominent downtown corner of Warren and John R Street.

The major exhibits hall was originally designed as approximately 8,000 sf of very flexible clear-spanned space. Over the years nearly half of the space was appropriated for other programs, leaving the remaining 4,500 sf very constrained for changing exhibits. A primary goal of the expansion and renovation program was to create nearly 50,000 sf of exhibit space, making it one of the finest temporary exhibit spaces in the region.

The existing Science Center housed the only IMAX® *Dome* Theater in Michigan, but its impact was minimized because it was virtually submerged beneath the ground. One of the goals of the new design was to integrate the theatre in a more provocative way with the exhibit space.

New synergies were to be achieved by reconnecting science rooms in the lower level, which had their own exterior entrance, to the general circulation in the building. Additional means of vertical access were needed to accommodate large groups of people without relying on the huge but painfully slow existing elevator. Greater organizational efficiencies were desired for administrative and support spaces (the Director's office was located in one of the service areas of the IMAX theatre where people had to pass through to make repairs).

Bold geometry, vibrant colors and materials evocative of the City's industrial heritage give the Science Center a

unique character within the Cultural Center. A new Digital Dome Planetarium located within a blue-glazed brick cylinder topped with a geodesic dome provides a strong visual identity. Much of the addition is below grade at the existing education level and above grade at the existing plaza level, reducing construction costs while maintaining the important visual cues of the original red cylinder and stainless steel box. The building is clad in glass and corrugated metal siding which, with the exception of its metallic paint finish, could be found on any number of Detroit factories over the last 100 years.

Continuing the industrial imagery, the interiors are very direct, which also minimizes costs. The structure is exposed, as are mechanical and electrical systems, which allows great flexibility for changing exhibits. A new glass enclosed elevator and monumental stair rises through the new exhibit spaces to connect with the IMAX® *Dome* Theatre lobby and the existing elevated exhibit hall, creating a unified vertical transportation spine that ties all public spaces together.

The new exhibit hall features five exhibit laboratories reflecting major themes of the Michigan Curriculum Framework for Science Education. The GM Motion Laboratory feature hands-on and large-scale interactive exhibits. In a two-story windowed area, the Herbert H. and Grace A. Dow Foundation Life Science Laboratory features an exploration of DNA, highlights life in a rain forest and explores the microscopic world.

The Sparks Theater is the focal point of the Matter and Energy Laboratory, demonstrating the interaction between electricity and magnetism. The Waves and Vibrations Laboratory relates specifically to light, sound and the transfer of energy through wave motion. And finally, the SBC Ameritech Children's Gallery allows pre-school through second-grade visitors to explore science with pint-size experiments.

The popular IMAX® *Dome* Theatre was renovated and updated with new lighting, a projection screen and audio equipment. The IMAX® *Dome* Theatre is joined by a state-of-the-art Digital Dome Planetarium featuring star shows, slide presentations, laser displays and video presentations. In addition to the exhibit laboratories and theaters, the facility houses the Ford Learning Resource Center, which offers five unique learning environments and a Teacher Resource Center for camp programs, after-school programs, field trips, over-night camp-ins and weekend family programs.