



exhibit  
**BUILDER**  
DIMENSIONAL DESIGN AT WORK

March/April 2007  
\$10.00

[www.exhibitbuilder.net](http://www.exhibitbuilder.net)

- **YOU SHALL NOT HARM YOUR ARTIFACTS**
- **UNIQUE OUTDOOR ENVIRONMENT**
- **CREATIVE FLOORING SOLUTIONS**



# Unique Outdoor Environment

by Carolyn Brown  
Senior Designer and Project Coordinator  
Reich + Petch Design International  
Toronto, Ontario, Canada



The engaging and accessible 56,000 square foot plaza is the fun “front yard” of the Ontario Science Centre. Pictured above is a night view of the *FUNtain* with the IMAX Dome beyond.

**T**ELUSCAPE at the Ontario Science Centre in Toronto, Ontario, Canada, is an expansive, new, outdoor exploration plaza that opened last fall. This engaging and accessible 56,000 square foot plaza is the fun “front yard” of the Science Centre. Named TELUSCAPE in recognition of the \$10 million sponsorship by TELUS to the Ontario Science Centre’s \$45 million *Agents of Change* initiative, the plaza is one of the major components of this ambitious program.

The project required the redevelopment of the defunct Centennial Fountain located between the Science Centre’s main entrance and Don Mills Road. What was once a dramatic and exuberant landmark, with its 100 dancing jets of water, had fallen into disrepair and had been out of com-

mission for many years. The empty concrete basin left behind was both a visual and physical barrier that distanced the Centre from the street and its surrounding neighborhood.

The new design fulfills many practical requirements including redirecting traffic to create a large pedestrian-friendly “front yard” and improving pedestrian accessibility to public transit stops. TELUSCAPE is now the first welcoming impression the public encounters when visiting the Ontario Science Centre and the last impression when leaving.

From the preliminary design charrettes to masterplanning and project completion, Reich + Petch led the multi-disciplined design team and worked closely with the *Agents*





The main path down to the entrance is framed between the vertical organ pipes of *FUNtain* on one side and the undulating mound of the amphitheater hill on the other.

of *Change* senior project manager and key staff from the Ontario Science Centre. Reich + Petch's specific role was in the development of the visitor experiences and their integration into the landscape.

The design commenced in fall 2005, culminating in the presentation of a broad and ambitious masterplan in March 2006. The masterplan conceived a wide vision of the plaza, including future expansion and a range of experience components. The design created an intriguing and complete vision, while still allowing for future installations, as well as additions to be made by the Centre at a later date.

Programmatically, the final design of the plaza includes a 350-seat outdoor amphitheater at the north end, a central spiral plaza in the middle and wetland on the south, all connected by a continuous meandering water walk. The features dispersed throughout the plaza combine native trees

and planting, walkways, innovative landscape features, interactive experiences and installation art. One of the unusual features of the plaza is that admission is free to the public and open throughout the year to visitors and the surrounding community.

When the client approved the scope of work to be constructed in May, there were a little over three months remaining to complete design development, construction documents and construction of the plaza so it could open at the end of September.

One of the main challenges the designers faced was how to make TELUSCAPE universally accessible given the site's 2.5m elevation drop from the street to the front door. To overcome this grading difficulty, the landscape architect devised an appealing and practical curvilinear spiral formation on which to lay out the pathways and create long,





Once dusk arrives at the site, the illumination of the five *Sculptural Trees* comes alive. The colors displayed by the LED light strands along the tree branches are programmed to change with the seasons, just as real trees would change.

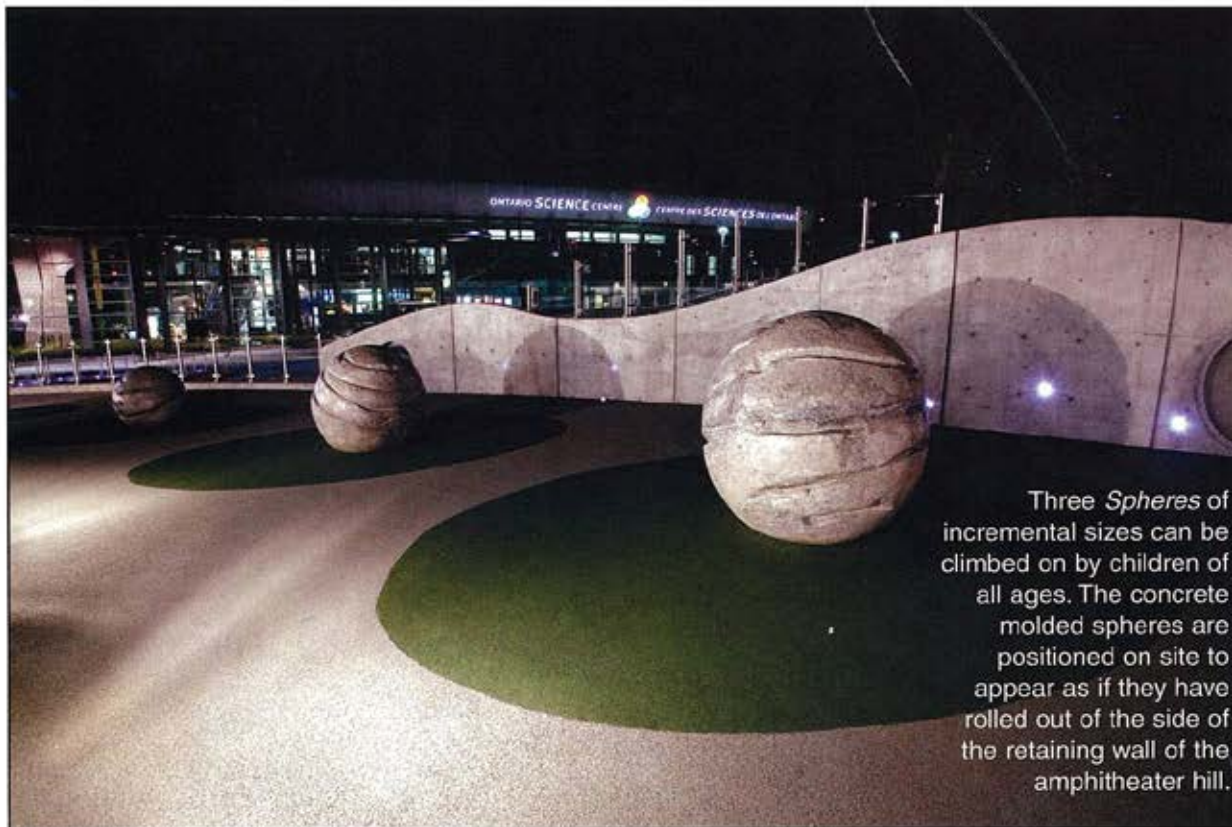
gentle ramps, allowing ease of access to all areas of the site. The curvilinear lines of the pathways and ramps make movement throughout the space fluid and intuitive.

The benefit of the grade change for the new plaza comes from the direct site lines, which are created from the main transit stop and vehicular access point off of Don Mills Road. From this vantage point the site opens up and allows the visitor to oversee the entire plaza and all of its experiential components. This openness also makes it easy for the visitor to get a clear sense of direction and orientation. The main path down to the entrance is framed between the vertical organ pipes of *FUNtain*, by Steve Mann, Toronto, on one side and the undulating mound of the amphitheater hill on the other.

TELUSCAPE is not just a park; it is an exciting and fun landscape experience, encouraging visitors to learn about science and connect with the natural world. The plaza connects the inside to the outside by bringing the Ontario Science Centre and its Flemmington Park neighborhood closer together. It is a place that is enjoyable in all

seasons and all times of day. In the daytime visitors are welcomed by the vibrant colors, textures and materials; at night the place is transformed by a warmer playful lighting effect giving it a completely different feel. In winter the exhibits





Three *Spheres* of incremental sizes can be climbed on by children of all ages. The concrete molded spheres are positioned on site to appear as if they have rolled out of the side of the retaining wall of the amphitheater hill.

are still highly visible even when everything is covered with snow. The lighting was supplied by TPL Lighting, Toronto.

The overarching design theme for the experiences is to encourage visitors to “question the landscape” through the use of counterintuitive elements, transitions and juxtaposition of urban and natural elements. Visitors are invited to explore and investigate their surroundings through interaction, play and experimentation.

Visitors will definitely be drawn to *FUNtain*, an interactive sound sculpture by artist Steve Mann, the artist created the sculpture using two distinct hydraulophone instruments with corresponding vertical organ pipes. The fountain functions as a musical instrument, which visitors play by blocking various holes along the length of the sculpture. The 1/4" holes spray a fine stream of water which, when blocked by people's fingers, make a sound in response. Each jet of water corresponds to a note on the musical scale. During the winter the instrument is played using air instead of water. From a design standpoint the main access point to the site is the airy open spiral form of the vertical organ pipes which create an interesting counterpoint to the solid spiral wall enveloping the adjacent IMAX theater

dome.

Further along the walk there is another water-based experience, the playful *Water Maze*, from Ravco International, Scarborough, Ontario. Designed with Richard Van Seters, this interactive at-grade fountain is one that visitors can walk without getting wet, if they hurry. The maze is made up of a 4m x 8m grid of colored, textured concrete pavers with walls of water that spray up in modulating patterns. The pavers are colored to resemble a checkerboard and help visually define the edges. Water sprays up high enough so visitors can figure out a path, but also the height of the water sprays mean they can't just step over them. An outer perimeter of water running continuously acts as a boundary. The interior walls are programmed to change patterns to create a number of different maze variations. All in all, the *Water Maze* is great fun.

Once dusk arrives at the site, the illumination of the five *Sculptural Trees* comes alive. The colors displayed by the LED light strands along the tree branches are programmed to change with the seasons, just as real trees would change. The LED light strands and LED programming was supplied by Color Kinetics, Boston, MA. In addition, visitors interact

with the trees by using their TELUS cell phones. This innovative feature is free of charge to TELUS users. By texting the word 'PLAY' to a short code displayed at the base of the trees, users start a conversation resulting in different light shows, which can be played by the specified tree. If only one user is texting, all trees display the resulting shows. When there are multiple users, each of them interacts with an individual tree.

For a more physical experience, three *Spheres* of incremental sizes can be climbed on by children of all ages. (The spheres are from Hamilton Scenic Specialities, Hamilton, Ontario, Paragon Studios, Oakville, Ontario, The Control Freqs, Oakville.) The concrete molded spheres are positioned on site to appear as if they have rolled out of the side of the retaining wall of the amphitheater hill. The spheres are lined atop a colorful rubber safety floor, creating a safe children's play zone with natural stone benches close by for adults to sit and supervise. Here again the position and size

of the spheres offer interesting perspectives set against the backdrop of the existing Science Centre IMAX dome. These positions and setting introduce people to concepts of distance and depth perception.



The Amphitheater is designed to make visitors forget how close they are to the busy street nearby, with the new manmade hill behind helping buffer traffic noise from Don Mills Road. Pictured above is the Amphitheater seating.

During the day, the *Wetland* situated at the south end of the water walk helps to emphasize the uniqueness of the





Winter view of the plaza looking north.

natural ravine site at the Science Centre. The pond is planted in zones, which demonstrate some of the site's natural influences. Over time as the area grows and matures, the pond level will fluctuate dependant upon dry or wet conditions, with plant material like cattails, bulrushes and dogwoods, responding to these changes. At night this area is illuminated with imbedded LED reeds and stumps, which create a colorful, almost surreal effect. The custom LEDs morph into changing color and patterns throughout the evening.

Along the pedestrian access route from the main parking lot are three *Light Caves* embedded in the retaining wall of the amphitheater hill. Motion sensors attached to the caves activate the LED lights within as visitors pass. This movement coming from different directions sets in motion four distinct light shows in each cave. One cave is designed as a kaleidoscope, another as an infinity mirror and the third is a pixilated image. Since the lights are recessed within the hill and protected from direct sunlight, they are visible at all times of day.

Three *Wind Turbines* are mounted on top of the new amphitheater hill. Each turbine is surrounded by a circular ring illuminated with LED lights. Weather sensors allow the central turbine to measure the wind speed and direction, signaling the lights to change color and pattern to communicate the weather conditions. This feature takes advantage of an existing, prominent site condition, and succeeds in attracting people to the site from the far end of the north parking lot.

The Amphitheater is designed to make visitors forget how close they are to the busy street nearby, with the new

manmade hill behind helping buffer traffic noise from Don Mills Road. At night the stage is embedded with a constellation of fibre optic lights in the pattern of the Autumnal Equinox, matching the one which occurred during the plaza's opening week. During the day, the hill appears to be fully naturalized at first sight; but on closer examination, people will discover that the large seat steps are actually infilled with new, high-tech and very realistic looking artificial turf. The use of turf in this location helps to soften the look of the space and to maximize the permeable surfaces on the site, giving it a maintenance-free, manicured look. The use of a variety of soft and hard surfaces on site helped solve the storm water runoff that was a problem when the site was fully paved over.

The overall site design of the TELUSCAPE Plaza highlights the unusual location of the Ontario Science Centre by combining both the natural beauty of its ravine valley setting and the bustling urban and multi-cultural community of Flemmington Park. Pulling themes directly from the site's landscape and context, plus the deliberate use of native materials and plantings, ties the plaza to the Centre. Local plant material was embedded to create textured concrete, which gives the waterwalk its interesting appearance. All of these natural and design factors have contributed to make TELUSCAPE truly unique and different from any other Science Centre's outdoor exhibit space.

The budget for the plaza was a modest \$2.5 million. Given the amount of site work and servicing that needed to be included, this proved to be an extremely tight budget for a project of its size and scope.

When the original Ontario Science Centre was conceived in the 1960s, the entrance was viewed as a functional space for the ordinary tasks of sale of tickets and coat checking before the visitor crossed the interior bridge leading to the exhibition halls. With this new gateway, the journey of discovery starts at the moment of arrival. As the plaza is enjoyed in years to come, the true success of the project will be achieved by its continued ability "to delight, inform and challenge visitors through engaging and thought-provoking experiences in science and technology." This purpose has been the driving force behind the ambitious *Agents of Change* initiative, which, when complete, will have renewed more than one-third of the Science Centre's public spaces. **eb**



Over 25 years, we have evolved our viewpoint about design to create extraordinary moments and opportunities for people to have experiences that change their understanding and perspective of the world they live in.

## **REICH+PETCH**

1867 Yonge Street Toronto, ON Canada M4S 1Y5  
TEL (416) 480 2020 FAX (416) 480 1881  
[www.reich-petch.com](http://www.reich-petch.com)  
[info@reich-petch.com](mailto:info@reich-petch.com)