2011 ASLA Design Awards

Mordecai Children’s Garden
Merit Award
Mundus Bishop Design, Inc.

Design over $500,000 Construction Budget
Project Fact Sheet – Category 1A Design

Project Name: Mordecai Children’s Garden  
Project Location: Denver Botanic Gardens in Denver, Colorado

Quick Project Summary: Mordecai Children’s Garden at Denver Botanic Gardens brings the Colorado ecosystem to life for families and children. This educational and fun garden of more than two acres connects kids with the great outdoors and the natural world through play, experimentation, discovery and observation. The garden is a series of smaller gardens where each Colorado life zone is depicted including short-grass prairie and grasslands, alpine tundra, rushing streams and all places in-between. These garden rooms include a rooftop alpine garden built as an intensive green roof; two mountains – Marmot Mountain and Pika Peak; a kid’s size amphitheater that rivals Red Rocks; Pipsqueak Pond where the garden’s storm water is cleaned; and Home Harvest Garden where families learn about gardening in Colorado’s climate.

Construction Budget: $4,000,000

Purpose of Project: Mordecai Children’s Garden is an accessible ‘kid’ scale world where children have first-hand experiences with plants and wonders of the natural world including rock outcroppings and rushing water. The emphasis is on a family experience where adults and children can explore together – where parents are experimenting and playing alongside their children rather than watching from the sidelines.

The garden provides opportunities for children and their families to explore, play and learn about the great outdoors; and then take these experiences home, encouraging them to become better stewards of our natural world today, and into the future. While environmental education is a top priority, connecting kids with plants is a key component of Denver Botanic Garden’s mission. The Mordecai Children’s Garden provides many opportunities for kids to directly interact with the plants, geologic formations, water, and other natural characteristics of the life zones of Colorado.

The garden showcases Denver Botanic Garden’s commitment to environmental responsibility. The size of the garden at just under three acres offers plenty of space to experience the diverse ecosystems. The garden sits between two busy arterial streets and nearly one third of the garden is located on the roof of a parking garage. For most of its length, the garden is elevated above its surroundings ranging from six feet to more than fifteen feet above the adjacent streets. This height assists in reducing outside noise and helps create an internal focus for the garden. The Mordecai Children’s Garden takes advantage of the parking garage roof in two ways. A new Welcome Pavilion, built as part of the garage, is the garden’s entrance and the parking garage roof represents the alpine ecosystem set on a green roof.

Storm water drainage is a key element of the garden’s design. Close to one-third of the storm water generated on-site is directed to an on-site pond that stores and cleans the water before it is released into the city system. The pond is a place for kids to explore water and plants that grow at the water’s edge, and learn about the dual function of the pond.

Mordecai Children’s Garden is composed of several individual garden rooms.

Trailhead Terrace and Rooftop Alpine Garden – The journey begins at Trailhead Terrace in the Rooftop Alpine Garden. Leaving the Welcome Pavilion, kids and families weave through alpine tundra along a wildflower walk and wooden stationary and moving boardwalks. They experience the harshness and fragility of the alpine including wind, sun and plants. They learn about the intensive green roof they are standing and how it plays a role in the sustainability of our environment.

Marmot Way onto Marmot Mountain and Pika Peak - Following the garden’s main walk, Marmot Way, children arrive at two mountains where Colorado’s sub-alpine and montane forest reign. Rising above Marmot Way, Pika Peak is nestled amongst the trees where birds nests and eggs and feathered wings for dress-up are used by children to experience nature from above. The garden’s highest point - Marmot Mountain looms to the east. Children and their families climb Way up High Trail to explore coves, rocks, wind tunnels, and snag trees. A swinging bridge connects the two peaks.

‘Mist’ery Forest - ‘Mist’-ery Forest represents Colorado’s riparian ecosystem, surrounded by forest. Springmelt Stream meanders along one side and is a favorite place for children to play and arrange and rearrange cobbles, branches, and boulders in the stream, and race twig boats. River Birch and Rocky Mountain Maple line the stream and Aspen trees define the garden edges. Across the forest is a digging pit that is a favorite activity for children searching for buried treasures.

Glorious Grasslands – Leaving the forest, kids experience the wonder of native grasses and wildflowers where a short-grass prairie grace the center of the Glorious Grasslands, surrounded by cottonwood and willow trees. Mountain Shadows Pavilion provides shelter for reading and relaxing. The Pollinator Trail provides a sensory experience where kids observe pollination in action and learn about flowers - their parts and their purpose.
Pipsqueak Pond – A waterfall splashes along the hillside into a pool of smooth water surrounded by riparian and aquatic plants. A wooden dock extends towards the water and into a sand bar where kids can walk alongside the cattails, sedges, rushes and willows and collect water samples to learn about the ‘pond’ neighborhood and its food chain. A message that ponds filter water is emphasized and equipment that is necessary for the storm water system is showcased.

Sagebrush Stage – From the moment kids and families see the looming outcroppings of the red sandstone formations from above, they are drawn to Sagebrush Stage. Protected on two sides by massive sloping sandstone outcroppings, the amphitheater is a perfect acoustic and intimate space for the many performances, classes and story times that occur on its sandstone seats.

Home Harvest Garden – Hands-on gardening of fruits and vegetables occur in this space where growing plants, recycling garden waste and identifying common weeds are the focus. Digging, planting, tasting and composting are highlighted through this hands on garden to table experience.

Role of Landscape Architect: The landscape architect served as prime consultant responsible for design, project management, and construction observation/administration. The landscape architect was responsible for implementation of design of the conceptual ideas and the overarching theme of a place for children to connect with nature through experiencing the Colorado landscape, while meeting the budget.

The landscape architect was responsible for articulating the proposed design to the Denver Botanic Garden’s board and their donors to bring the project to fruition. This effort included preparing design development and construction documents for the whole garden as well as for each individual garden room to gain the necessary approvals and to assist in securing funding.

The landscape architect worked collaboratively with Denver Botanic Garden’s staff, board and the children’s garden committee. This included working with the education staff on the program to ensure that ideas for physical spaces would accommodate kid space, storage and creative needs. An exciting aspect of the project was the opportunity to work closely with the horticulture staff on the planting palette to bring the Colorado ecosystem to life.

Special Factors:

Green Roof – The intensive green roof is the front door of the garden making it an important space to capture the sense of wonder and intrigue, while providing gathering and meeting space and garden orientation at the ‘Trailhead Terrace’. In order to achieve this, structures including a gateway trellis, boardwalks and a masonry lookout terrace were creatively engineered over a shallow soil depth and geofoam was utilized to provide topography; while lightening the overall loads on the structure.

The entire green roof drains to an integral french drain and is directed to a drainage vault before it ties into an underground detention vault. This drainage vault is utilized by Urban Drainage and Flood Control District to allow for testing and sampling of the water quality of the green roof and will continuously be monitored after storm events.

Storm Water Detention – Pipsqueak Pond was designed to be an integrated educational garden feature while also providing detention for the 100 year storm event. The pond is biotic with a diverse wetland environment for water quality. The showcasing of the stormwater infrastructure brings to life for visitors what happens to water after it hits the ground.

Accessibility – Designing the existing garden to be accessible throughout was a challenge with twenty even feet of grade change from the entrance to the end of the garden. The intimate garden spaces and meandering trail circulation provides accessibility to all activities in the garden.

Construction Methods – A variety of construction methods and local craftsman were utilized for the sculpted concrete features to suit the project constraints of building on the parking garage, meeting the sites large grade changes and allowing the ability to work directly with the craftsman to get the appearance that was expected.

Significance: Mordecai Children’s Garden provides a special opportunity to connect kids and their families with nature, and Colorado’s various ecosystems, in a space specifically created for them. By creating a landscape at a scale for kids with all the textures, smells, and sights, along with all the fun and adventure of the Colorado outdoors, the Mordecai Children’s Garden continues to make a lasting impression on tomorrow’s leaders on the importance of our planet and the ways in which we can protect it. In this garden, the message of environmental stewardship and responsibility is presented as part of adventure, exploration and learning, making it more powerful and lasting.

It illustrates the important role that landscape architects have in planning and designing environments for specific purposes. This project highlights how landscape architects positively influence the character of our cities, including protecting water (the storm water and water quality pond), minimizing heat island effect (green roof), and in educating our children.