

Category 4 – Best Building Project – Specialty Contractor Under \$2 Million

Colorado Hardscapes

Johnson Habitat Park

### **Integrated Teamwork Revitalizes River**

Colorado Hardscapes installed many concrete elements including a fox hollow tree, log steppers, boulders, plazas, a fire pit, and stained floors at the new Johnson Habitat Park in Denver. These elements helped create a remarkable park along the South Platte River. The vision took teamwork to become a reality.

In June, Johnson Habitat Park opened to the public along the South Platte River. The community gathered as Mayor Hancock welcomed the new park, “Today we are not just cutting the ribbon of a newly renovated park, but a new chapter in our city’s rich history. And we get to leave something for these young people in front of me, that they will appreciate much more than we got to appreciate.” And he continued, “today with a new playground, a beautiful new learning landscape, outdoor classroom, an awesome fire pit we can do permits for education and outdoor overnight opportunities for you people and other non-profits and educational programing.”

Johnson Habitat Park is part of the River Vision for Denver. The vision stemmed from goals set years ago by the Shoemakers when they saw abuse of the river and the possibilities revitalization could bring to Denver. Jeff Shoemaker stated, “My father started The Greenway Foundation in the 1970’s with the vision of reclaiming the South Platte River and its tributaries. The site of Johnson Habitat Park used to be a polluted landfill dumpsite, one of five along Denver’s South Platte River at the time. Today however, JH Park is a unique outdoor education-learning center, home of the Foundation’s youth education program known as SPREE (South Platte River Environmental Education). Additionally, JH Park provides nearby residents with the opportunity to experience ‘nature in their backyard’ including programmed weekend events by SPREE that feature overnight campouts for children and their families. Thanks to the City and County of Denver and numerous additional funding partners as well as the design and construction talents of Colorado-based companies such as Colorado Hardscapes. JH Park and the adjacent South Platte River have new life and new energy, right in the epicenter of Denver.” Through the framework of long term visioning and an excellent team, Hardscapes helped restore the livelihood of the river by offering their decorative concrete expertise.

A major obstacle for the vision came early on: money. The city partnered with DHM Design to help secure funding. Mark Wilcox, principal at DHM Design, explains, “DHM assisted the City of Denver with writing and winning the GOCO River’s Corridor Initiative grant for over \$6 million in funding for river projects identified in the River Vision Implementation Plan. Denver hired DHM based on our past performance and efforts to help them find the funding for these projects. And of course, we like to think having kids make s’mores for the GOCO BOD helped sway the vote in our favor.” DHM reached out to Hardscapes in the early phases to determine the feasibility of their ideas for the River Vision.

Mark Wilcox of DHM worked with Karen Keyes of Hardscapes early in the process. They worked through ideas for the large boulders for the West side of the park to create a sheltered setting to give a mountain feel and help bring the mountains closer to the city. They worked through different paving ideas for some of the key elements of the park. Together they found cost effective solutions while creating structurally sound and aesthetic colors and finishes.

ECI Site Construction Management was the CM/GC for the park. The budgeting and value engineering continued with ECI, DHM and Hardscapes to align the final price to the funding available. As construction budgets rolled in, they needed additional adjustments. The three companies collaborated on solutions to meet the design and budget. Early in the design and throughout the construction document stages, the following solutions emerged:

- **Fox Hollow:** DHM envisioned a custom climbing structure where kids can go in and around an old hollowed-out tree. Wilcox and Keyes worked together to determine how to make the structure out of shotcrete. Keyes created a maquette of the fox hollow with the inspiration of the old cottonwood trees along river. She studied the structure’s orientation and how the openings of the tree should encourage safe movement around the playground. She created peek holes for kids to glimpse out at their friends or parents. She crafted a worn piece of the tree inside as a table or chair to encourage imagination and play. The roots wrapped around the tree to encourage climbing, exploration, and seating without tripping the children.
- **Faux Log Steppers:** Through comparisons with ECI and DHM, the team discovered cost savings for Hardscapes to build some of the log steppers out of concrete to match the fox hollow. The concrete log steppers meander through the park and natural logs. By creating these elements on site, they reduced the environmental impact of manufacturing them out

of state and transporting them to Colorado.

- **Large Boulders:** Gently hugging the West side of the park, large shotcrete boulders form a subtle focal point. DHM, Denver, Hardscapes and ECI worked together extensively on this key feature. DHM envisioned large rocks similar to those found in the mountains. They wanted the boulders to provide a shelter from the wind and a cozy setting for kids to pitch tents. DHM and Hardscapes worked together and concluded to create the boulders out of shotcrete due to size, style, sustainability, and budget. When the overall park costs came in over budget, Hardscapes worked with ECI and DHM to re-work the feature, scale it down and meet the design intent.

Keyes made the maquette with the design elements from DHM in mind along with concerns about kids climbing. She took inspiration from boulders along the Platte River near Deckers and Cheesman. She envisioned the formations traveling along the river over time and washing along the banks at Johnson Habitat. She based everything from their shapes to orientation on the geomorphology, telling their history along the river.

- **The Compass Rose:** DHM designed 11 colors and/or textures within 585 total square feet. To pour each panel separately was expensive and caused structural weak points due to the layout and design. So, Hardscapes and DHM worked together to develop a plan to create the entire compass rose out of a base mix of concrete and color the surface of the wet concrete with color hardener. This allowed different colors and finishes to be poured together, creating a more structural and budget friendly solution. The color will last longer than any surface applied stain or pigment.
- **The Flower Plaza:** Similar to the compass rose, the layout created concerns for separate pours for different colors. In addition to the structural and cost concerns, DHM envisioned brighter colors for the flower plaza. For the columbine flower paving they wanted a light and dark purple, and for the blanket flower a yellow and red. Traditional integral color in gray cement could not achieve those bright of colors without incurring costly concrete mixes. So, Hardscapes used custom color hardeners to match the bright color palette.

DHM wanted something unique for the forget-me-not flower portion, consisting of several flowers rather than one like the other two flower pavements. They considered sandblasting and staining, but hesitated due to the shorter lifespan of stain. They

discussed cutting the designs in, but the problem of color arose again. Hardscapes suggested utilizing a concrete innovation of LithoMosaics. By creating outlines of the flowers with the LithoMosaic technique, they achieved vibrant, long lasting colors in the concrete and stayed within budget. As an added bonus, the kids of SPREE helped create two of the flowers with the assistance from DHM, Denver, SPREE and Hardscapes. The children are part of the history and future of this park due to the innovation of introducing mosaics into decorative concrete.

Together, DHM and Hardscapes, helped push the envelope of possibilities with decorative concrete on a budget. During construction, Hardscapes worked with the team to construct each element to the design intent while being mindful of the design, river environment and safety.

Ted Johnson, of ECI stated, “This was the first of multiple phases of the River Vision project completed under the CM/GC process for the City and County of Denver. The collaborative delivery process allowed this challenging project to be completed on time and within budget. Working with quality subcontractors, like Colorado Hardscapes, helped implement the stakeholders vision in an efficient fashion while maintaining strict design integrity of the unique site elements for this signature park on the South Platte River.”

The team created an educational and recreational park with extremely custom features through collaboration. Mayor Hancock concluded his speech at the grand opening with, “To have this kind of setting in the urban core is an amazing opportunity and one in which I’m so excited for everyone. This park belongs to the people of Denver and the people of this great region. And what a great gift we can leave behind us.”



Colorful concrete plazas, radial SandScape walls, and shotcrete rock structures



Sculpted concrete fox hollow with compass rose in the background



Log steppers amongst natural logs and the sculpted shotcrete boulders in the background



Construction of the shotcrete rocks included referring to a construction copy of the maquette



The compass rose pointing west to the rock structures



The color hardener process for the blanket flower plaza



The blanket flower plaza with vibrant colors



The SPREE kids helped create the LithoMosaics for the forget-me-not plaza



Finished LithoMosaic flower installed, created by the SPREE kids



The grand opening ceremony with Mayor Hancock and the community