

# KC TO THE SEA CURRICULUM; SWOPE CAMPUS

KANSAS CITY, MO



The Swope Campus parking lot at Kansas City Water Services headquarters. The project was a 2016 case study in the Landscape Architecture Foundation's Landscape Performance Series.

**KC to the Sea is a 4th–6th grade curriculum developed through a collaboration between BNIM, Kansas City Water Services, Project Explore, and the Blue River Watershed Association.** The landscape architect BNIM was hired to design KC Water's Swope Campus using best management practices in stormwater management, but that project sparked a bigger idea: to create **a curriculum that would help students understand stormwater systems and the health of their local watershed.** Funded by KC Water, *KC to the Sea* invites Kansas City youth to be active participants in their community's water cycle, fostering a deeper understanding of their local environment and enhancing their educational experience. In 2012, it received a National Communications Award from the American Society of Landscape Architects (ASLA), and more than a decade later, KC Water continues to offer an updated version of the program to local 5th-grade students.

## PROJECT

- The Swope Campus is a 6.2-acre transformation of a deteriorated parking lot and building entry sequence for the headquarters of the Kansas City Water Services Department (KC Water) and Parks and Recreation Department. The \$3.7 million project was completed in 2015 and includes a sustainable parking lot and building entry that features a series of stormwater best management practices.<sup>1</sup>

## PROJECT

Civic/Government Facility,  
Transportation, Stormwater and  
Green Infrastructure

## CLIENT

Kansas City Water Services

## LANDSCAPE ARCHITECT

BNIM

## EDUCATOR

Kansas City Water Services; Blue  
River Watershed Association

## CURRICULUM

[KC to the Sea](#)

SELF-  
GUIDED

CLASSROOM-  
INTEGRATED



- The project serves as a demonstration site and watershed education center showcasing best practices in stormwater management. The parking lot and plaza incorporate various green infrastructure strategies to illustrate their effectiveness and educate both developers and the public.<sup>2</sup> Approaches to stormwater management include native plants, bioswales, bioretention cells, rain gardens, and permeable paving.<sup>1</sup>

- KC Water also intended to build a series of outdoor learning labs to accompany the stormwater improvements and create a landscape to teach students and visitors about sustainable stormwater practices. The project encountered funding challenges and was never constructed.<sup>3</sup>

**CLIENT**

- KC Water is a municipal government agency responsible for water collection, treatment, and distribution systems; wastewater collection and treatment systems; and stormwater management within the limits of Kansas City.

- KC Water provides educational and public outreach programs, providing online and in-person resources to help educators, students, and communities understand the importance of a healthy watershed.<sup>4</sup>

**CURRICULUM**

- The *KC to the Sea* curriculum teaches Kansas City students about the water cycle, stormwater management, and the impact of upstream actions on communities downstream. **Students learn about their and their communities’ role in protecting the local watershed.**<sup>5</sup> It was designed to complement major stormwater improvements on their campus.<sup>6</sup>

- The curriculum was designed to occur both in the classroom and outside, and the content is tailored to a 4th - 6th grade level.<sup>5</sup>

- The curriculum consists of five interactive, sequential exercises designed to happen over the course of five days:

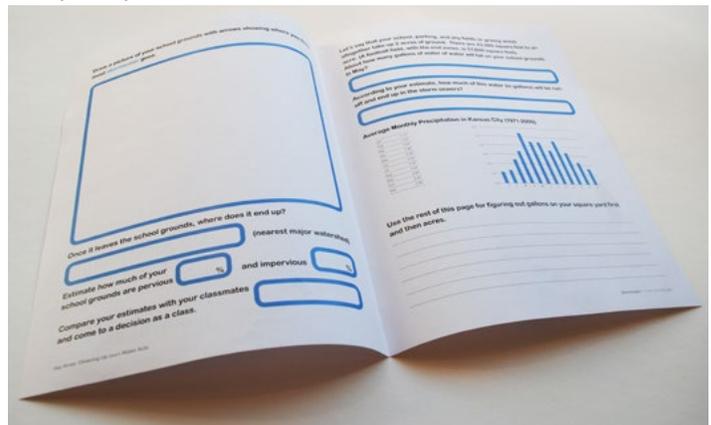
- **It’s an Event! Understanding Kansas City’s rain and its journey to the Watershed** – Through an outdoor activity, students explore their school grounds to learn where water flows on their campus and behaves on impervious surfaces.
- **Dangerous Travel—Hitchhiking with H2O (nonpoint source pollution)** – Students investigate the differences between point and non-point source pollution.



Swope Campus site plan. Image, BNIM



Interactive card games help students understand point and non-point pollution. Photo, BNIM.



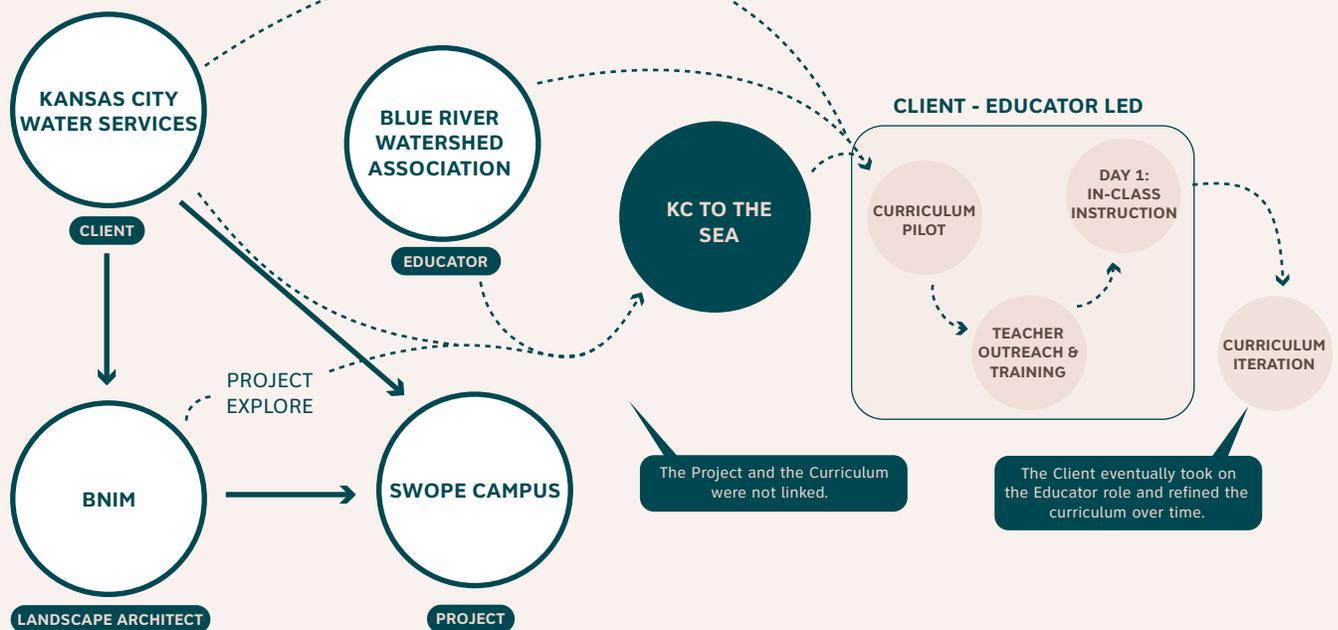
Student worksheet for Day 1: It’s an Event! Photo, BNIM

- **Cleaning up (our) Water Act—How do you manage stormwater (Best Management Practices)** – Through games and observations of stormwater management in their neighborhoods, students learn about stormwater BMPs and observe local management practices.
  - **Those Traveling Stormwater Teams—‘Building’ Clean Water Projects** – Students apply their knowledge by designing their own stormwater BMP projects.
  - **Walking the Talk—Getting the message to KC** – Students create media projects to educate their community about stormwater BMPs.<sup>5</sup>
- The curriculum includes an outline and instructions for each exercise, worksheets, illustrations to explain concepts, interactive games, and a teacher instructional manual to help educate teachers about the content and how to guide their students through the exercises.<sup>5</sup>
  - **The curriculum is science focused and aligns with Missouri state education standards**, which outline the requirement that students must understand water as a resource that cycles through the environment, is the basic element for life, changes the landscape, and is affected by human activity. The Missouri Department of

Education cites these as major components of a 4th and 6th grade science curriculum.<sup>5</sup>

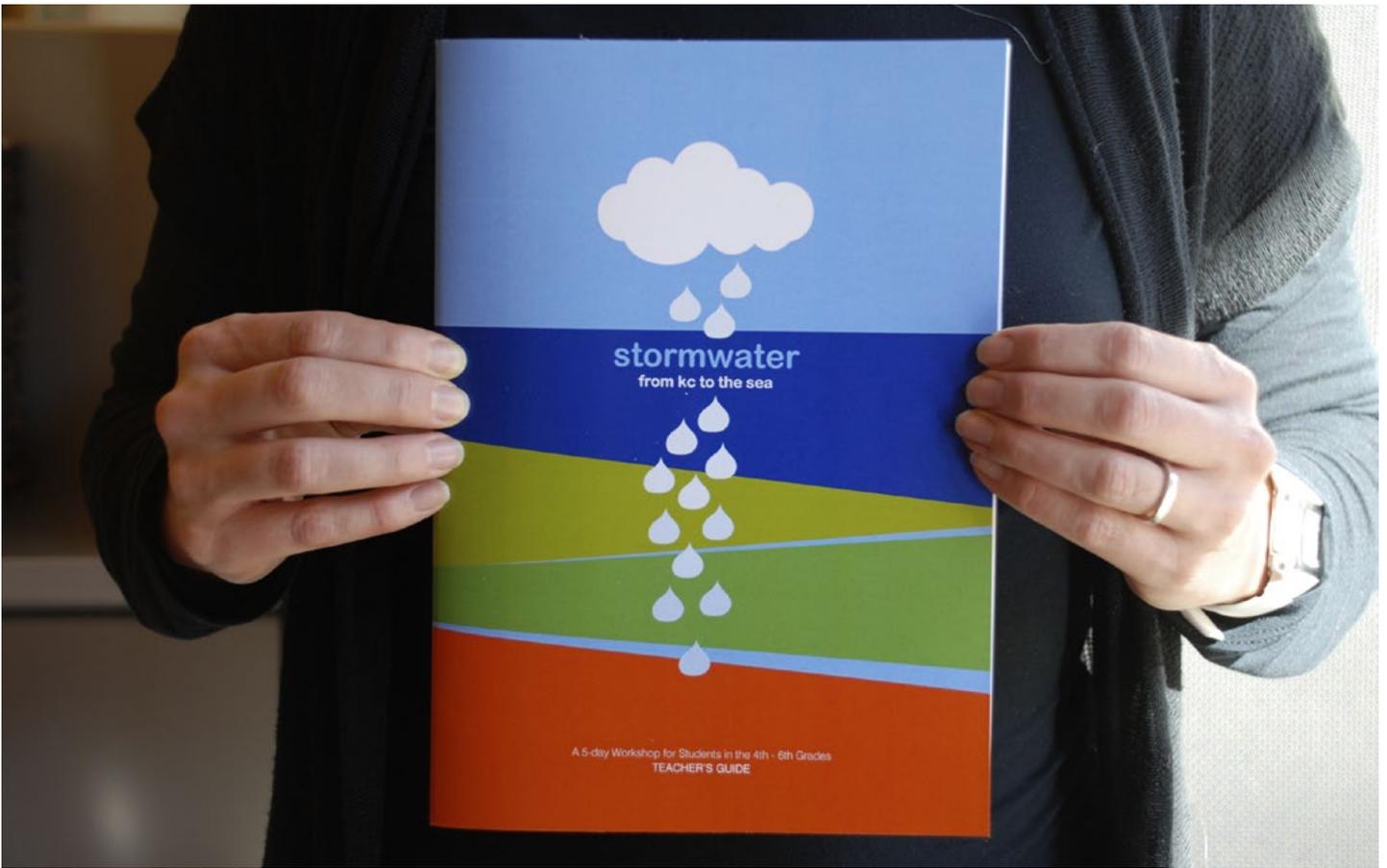
- The curriculum was piloted in six schools in 2010, and participating teachers were brought together afterward to share their experiences and suggest improvements for the future.<sup>5</sup>
- **The curriculum and the campus were not attached to each other.** The curriculum did lead to some field trips to the campus where students conducted on site experiments - like pouring water over pervious and impervious pavements - but there was never an expected on-site component to the curriculum. Field trip frequencies began to wane because schools increasingly experienced difficulties funding the buses for field trips. KC Water also found that the parking lot and green infrastructure on the Swope Campus was better understood by older kids - so most field trips started catering toward high school age students.<sup>3</sup>
- Fifteen years later, KC Water still offers *KC to the Sea* as part of its educational programming, now in a shortened, one-hour format led by a KC Water staff member. All of KC Water’s educational resources align with Next Generation Science Standards and Missouri Learning Standards. KC Water also has a BMP’s and green infrastructure unit for Grade 9 and up.<sup>4</sup>

### PARTNERSHIP DIAGRAM



### LANDSCAPE ARCHITECT’S ROLE

BNIM led the development and design of the curriculum, in collaboration with Project Explore, Inc. BNIM provided subject matter expertise and book design and graphics, and Project Explore contributed expertise in curriculum design and education. BNIM was also the lead designer and landscape architect for the Swope Campus.<sup>7</sup>



KC to the Sea Teacher's Guide. Photo, BNIM.



Representative from KC Water lead a local class through a hands-on exercise. Photos, KC Water.



Curriculum includes in-class and outdoor hands-on activities. Photo, KC Water.

## EDUCATOR

- Project Explore, Inc. was a non-profit organization led by two retired teachers who worked directly with BNIM to design the curriculum. Project Explore provided knowledge and understanding of age appropriate topics, what teachers need in the classroom to be successful, and science education standards.<sup>7</sup>
- After BNIM completed the first draft of the curriculum, KC Water and the Blue River Watershed Association partnered to pilot and refine the curriculum, conduct teacher outreach, and provide teacher training.<sup>3</sup> Before closing in early 2024, the Blue River Watershed Association was a non-profit organization that focused on community engagement and education to protect the Blue River and its watershed.
- Representatives from the Blue River Watershed and KC Water visited local classrooms to teach the first of five lessons to students. This approach was successful because it not only engaged both teachers and students with the content, but also helped train teachers on how to effectively deliver the curriculum in their own classrooms.<sup>3</sup>
- As the program's success grew, KC Water was able to hire a full-time curriculum coordinator and assumed full responsibility for outreach and training. They continued

refining the curriculum over the years based on feedback from local teachers.<sup>3</sup>

- Initially, KC Water conducted extensive outreach, cold-calling educators to promote the curriculum. Within a few years, teachers began reaching out to them, and demand grew steadily. While some teachers were highly engaged, others required more support, and frequent turnover among school administrators made it difficult to maintain consistent partnerships at that level. Overall, KC Water credits strong relationships with teachers as key to the curriculum's ongoing success. Eventually, they were able to offer a service project alongside the curriculum, which proved especially rewarding for students, allowing them to apply what they had learned and feel they were making a difference.<sup>3</sup>

## KEY LESSONS

### **1 The client was mission-aligned.**

KC Water has an education and outreach department that was looking for a curriculum to enhance their education programs. They funded the initial development of the curriculum and continue to work with local teachers in Kansas City today. In this case, the Client was mission-aligned, but it is important to consider the potential for landscape architects to help their clients see the value of teaching with the landscape.<sup>7</sup>

### **2 The lasting relationships with teachers was the key to success.**

The organization found that the individual relationships with the teachers, not necessarily the schools or the STEM curriculum coordinators, kept the program going strong. Even when teachers changed schools, they often returned to KC Water to bring the curriculum to their students, while administrative turnover sometimes disrupted school-level partnerships.<sup>3</sup>

### **3 The non-profit educator was essential in the beginning to help get the curriculum into local classrooms.**

Having a teacher show other teachers how to teach the curriculum in their classes was important to the program's success. The non-profit partner on-board at the beginning brought expertise in teaching and enthusiasm for implementing the curriculum in local classrooms, when the client, KC Water, did not necessarily have the internal resources to perform the necessary outreach. This work also helped expand KC Water's internal education and outreach department, allowing them to take over the outreach later.<sup>3</sup>

### **4 Providing a hands-on, outdoor experience was the most successful part of the curriculum.**

Educators with KC Water cite that getting kids outside for simple, on-site exercises made the content tangible and easy to understand. In addition, pairing a service project with the curriculum helped students apply their knowledge and feel like they were making a difference.<sup>3</sup>

### **5 Integrating the curriculum with a physical outdoor project, like the Swope Campus, could deepen student learning and engagement.**

While the hands-on outdoor experiences were the most rewarding for students, they are largely limited to school grounds. With the understanding that funding is limited, providing students with greater access to real-world stormwater management features at the Swope Campus could further enhance their understanding and connection to the material.

# RESOURCES & REFERENCES

[1 Landscape Performance Series: Swope Campus and Parking Lot](#)

[2 BNIM: Swope Campus Sustainable Stormwater Improvements](#)

[4 KC Water: Education](#)

[5 2011 ASLA Professional Communication Awards: Stormwater from KC to the Sea; An Experiential Curriculum for Students in the 4th - 6th Grades](#)

[6 BNIM: Stormwater KC to the Sea](#)

## PROFESSIONALS INTERVIEWED

3 Lara Isch, former Education and Outreach Coordinator, KC Water (2012-2020), current Sustainability Manager for City of Overland Park, KS

7 Beena Ramaswami, Associate Principal, Director of Brand Identity, BNIM

***Landscapes are Learning Labs, 2025.***

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