

Lake Lenexa

Exemplifying the sustainability triple bottom line

Lake Lenexa covers nearly 35 acres within 240 acres of parkland that includes preserved woods and streamways. The dam and spillway facility features three wetlands, trails, docks and a boat ramp, picnic areas, boardwalks and access to water's edge for fishing. Cascading pools and a striking fountain can be viewed from atop a pedestrian bridge spanning the dam and spillway.

A promise kept

Rejecting the common perceptions of stormwater and runoff, Lake Lenexa successfully demonstrates the Rain to Recreation approach, transforming stormwater from a potential nuisance as damaging runoff into an environmental and community asset. This progressive thinking delivered a four-way success at Lake Lenexa: flood control, improved water quality, natural stream preservation, stormwater management and recreation and education opportunities.



Awards and recognition

Lake Lenexa received national recognition for its innovation and unique design, including:

- U.S. Society on Dams (USSD), 2009 Project of the Year Award
- USSD, 2008 Award of Excellence in the Constructed Project
- American Concrete Institute, Technical Innovation Award for the Lake Lenexa spillway, 2006
- American Council of Engineering Companies, National Engineering Excellence Award, given to Black & Veatch for the design of Lake Lenexa, 2006
- American City & Country magazine, designated as an American Crown Community, 2006
- Kansas Ready Mixed Concrete Association, 2006 Municipal Concrete Award
- American Builders and Contractors, Heart of America chapter, Excellence in Construction Award, Heavy Site Work/Demolition, given to Mega Industries Corporation for Phase I of Black Hoof Park, 2006

Most dams do their jobs away from the public eye. Lake Lenexa's residential setting became the impetus for a bigger vision, emphasizing bold architecture and aesthetics to create an inviting community focal point. The cutting-edge architectural design features curves in virtually every key element and feature, adding complexity to the design, engineering and construction approach.

Completed in just 268 days, the dam consists of 8,000 cubic yards of concrete, 544 tons of steel and 150,000 cubic yards of earth. That's enough material to build 123 in-ground swimming pools, create 544 cars and fill 50,000 wheelbarrows, respectively.

The design is an opposite configuration from conventional dam design—the dam arches upstream instead of downstream while the bridge bends down, rather than upstream. Successful implementation required the highest levels of engineering skill and innovation in geotechnology, physics, hydraulics and problem-solving.