

## CASE STUDY

# StormTech® Detention Utilized at Broken Arrow Events Park

## Broken Arrow, OK

### OWNER

City of Broken Arrow, OK

### ENGINEER

Kimley-Horn, Tulsa, OK

### CONTRACTOR

Crossland Heavy Contractors, Tulsa, OK

### INSTALLATION DATE

June 2024

### PRODUCTS

20' (6 m) of 15" (375 mm) HP Storm  
420' (128 m) of 18" (450 mm) HP Storm  
1,320' (402 m) of 24" (600 mm) HP Storm  
1,460' (445 m) of 30" (750 mm) HP Storm  
1,000' (305 m) of 36" (900 mm) HP Storm  
460' (140 m) of 42" (1050 mm) HP Storm  
660' (201m) of 48" (1200 mm) HP Storm  
166 MC-7200 StormTech Chambers  
35 Nyloplast® 6"-36" (150-900 mm) Basins  
& Curb Inlets  
ADS Plus geosynthetic

### DESCRIPTION

In 2010, the City of Broken Arrow developed a master plan, which included entertainment space and a small amphitheater at the Broken Arrow Events Park. In the early 2020s, a private company proposed a 12,500-capacity amphitheater and worked with the city to develop the Sunset Amphitheater. The amphitheater would bring an entertainment element that Broken Arrow has not had previously.

Infrastructure was needed for the theater and for future park events. Broken Arrow was looking for a stormwater management solution to maximize green space for the park's recreational activities. With the help of Kimley-Horn, and a cost analysis on StormTech that showed a quick return on investment, the city decided to go with a StormTech underground detention system.



[adspipe.com](http://adspipe.com)

800-821-6710





Kimley-Horn knew that StormTech MC-7200 Stormwater Chambers would be the ideal detention system, while HP Storm pipe could convey stormwater to the chambers. Existing Nyloplast basins in the park were used to capture the stormwater. The engineering firm had previously utilized ADS products and knew the cost effectiveness, versatility, ease of installation and maintenance would save the city money.

This is the first time Broken Arrow has publicly used a StormTech system on an infrastructure project. The system holds water until it is conveyed to a nearby creek. To protect the area's waterways, a StormTech Isolator® Row was installed to capture stormwater "first flush" runoff. This method reduces the volume of water in the creek, so it does not flood in large rain events. The project was developed rapidly and the design stage was only three months long. Since the system would tie into existing basins and conveyance, Kimley-Horn was able to modify the designs easily with ADS fittings, such as bends and reducers.

StormTech chambers are designed to save valuable land, reduce flooding risks and protect water resources. The chambers provide a durable structural system and are designed in accordance with AASHTO LRFD Bridge Design specification for the HS-20 Live loads. StormTech chambers are available in a variety of sizes to meet any project need and are injection molded for uniform wall thickness.

HP Storm polypropylene pipe provides superior pipe stiffness, longer bells and spigots and a premium joint performance for a longer service life. The smooth interior wall offers additional strength and high flow capacity. HP Storm pipe meets or exceeds the standards specified in ASTM F2881 and AASHTO M330 and the extended bell and spigot meets ASTM D3212. Polypropylene is resistant to the effects of chemicals, abrasion, hot soils and effluent.

Nyloplast drain basins and curb inlets were custom built for the project as they are for each application. Nyloplast products are more durable and corrosion resistant than precast basins and combine a rugged PVC structure with ductile iron grates. The basins can be easily adjusted in the field to meet the final grade. The structures are shipped with rubber gaskets to ensure a watertight connection.



[adspipe.com](http://adspipe.com)

800-821-6710

