

# CASE STUDY

## An Affordable Wastewater Treatment Solution for Institutions and Small Municipalities

### New Athens, Ohio

#### Problem

The village is an unsewered community with failing septic systems.

#### Solution

EarthTek was selected to assist with the design, and to supply a 68,000 gpd SABRE sequencing batch reactor (SBR) treatment plant.

The village of New Athens, a small community of about 320 people is located in Harrison County, Ohio. The village had been served by septic treatment systems until it was discovered some of the systems were failing, which caused water quality problems in nearby waterways.

The village hired the consulting firm of ADR and Associates to develop a plan for a new plant. The firm's project engineer, Jeff Carr, P.E. evaluated several options, eventually selecting EarthTek of Batesville, Indiana to assist with the design, and to supply a 68,000 gpd package SABRE sequencing batch reactor (SBR) treatment plant for the project.

#### Message from the President

"Our goal is to create the best solution for our client's specific needs, not just provide an off-the-shelf plant."  
-Kevin Chaffee, P.E.

#### Institutional Market

#### Project Overview

#### New Athens, Ohio



#### Design Parameters

- Population of 320

#### Primary Treatment

- Two 40,000-gallon primary FRP tanks

#### Secondary Treatment

- Two 35,000-gallon EarthTek SABRE SBR's

#### Dispersal

- Surface water discharge with NPDES permit

#### Operation

- Part-time operator

#### Influent Quality

- ave. 204 mg/l BOD5
- ave. 232 mg/l TSS
- ave. 55 mg/l NH3-N

#### EarthTek SABRE

#### Effluent Quality

- < 10 mg/l BOD5
- < 12 mg/l TSS
- < 1 mg/l NH3-N

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New Athens, Ohio

Institutional  
Market

EarthTek's SABRE SBR system was selected due to:

- Being split into multiple treatment units so one tank could be taken off-line if not needed
- Utilizes buried fiberglass tanks to be aesthetic, and minimizes odors due to the plant being installed in the backyards of nearby homes
- Simple to operate and maintain with minimal ongoing expense
- Cost-effective compared to other systems

The package wastewater system included two 40,000-gallon, 10' diameter, buried primary fiberglass (FRP) treatment tanks, two 35,000-gallon, 10' diameter, single-compartment buried FRP SBR tanks for secondary treatment, followed by composite flow sampling. ADR also provided tertiary drum filtration, UV disinfection, and cascade aeration.

The treated effluent has met the regulatory discharge permit limits of 10 mg/l BOD5, 12 mg/l TSS, and 1 mg/l Ammonia as Nitrogen since it was put into operation in the fall of 2015.



For more information about EarthTek SBR systems, contact EarthTek, at 800-972-9940.



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