



D.A. Brown Engineering Consultants

Aerial Photograph illustrating lake/subdivision construction almost complete

# STORM SYSTEM PROJECTS

## FOXWOOD DAM AND LAKE DESIGN

### Project Description

#### Project Overview

This project is located in Northeast Allen County. The project site straddles the Tieman Ditch, a tributary to the St. Joseph River. The Lake is approximately 16 acres (water surface) and sits directly on top of the location where the ditch used to be (in-stream detention.)

The Dam was designed and constructed on top of the ditch to impound the stream and provide storm event detention for the watershed. Upstream of the dam is over 1000 acres of total contributing watershed.

#### Dam Design and Permitting

Because of the conditions surrounding the design and location of this dam, the improvements had to go through several local, state, and federal review processes. Included in the agencies that had to approve the plans and construction were: Army Corps of Engineers,

Indiana Department of Environmental Management, Indiana Department of Natural Resources, Federal Emergency Management Agency, Allen County Plan Commission, Allen County Drainage Board, Allen County Surveyor's Office, and the Allen County Highway Department.



#### Estimated Project and Design Cost

The estimated construction cost of the lake and dam improvements was approximately \$1,500,000, while the surveying, design, and permitting cost was approximately \$150,000.

#### Major Design Items

DABEC design for this project included: Flood modeling for the Tieman Ditch, On-site detention modeling for the community, Off-site storm modeling for the pass-through quantities, Construction in the floodway permitting, High-hazard dam classification and armoring design, Bridge abutment design, Overflow weir design, and Integral storm design with wetland mitigation areas on-site.



Dam and Weir during a flooding event



Dam, Weir, and Footbridge during heavy flooding event

### Client Reference

**Jim Morlan**

**The Northeastern Group**

10808 LaCabreah Lane  
Fort Wayne, IN 46898  
260-489-7095 (phone)  
260-489-7950 (fax)