

**WESTFIELD BUSINESS PARK WATER MAIN INVESTIGATION,
ELGIN, ILLINOIS**



The City of Elgin became concerned when a water break was reported on the 15-year old ductile iron pipe. When they excavated the pipe they discovered that a six foot long piece had corroded to the point of looking much like the photo above. A procedure including both in-field and laboratory testing was followed to determine where conditions were most conducive to corrosion of the ductile iron pipe. Soil borings were drilled in 23 locations to obtain soil samples along the existing watermain. Laboratory testing included classifying the soil types and calculating the moisture content of the samples. Field soil resistivity testing was performed in 15 locations to determine the potential corrosive effects on the pipe material. From this information four locations were determined to best represent potential locations where pipe corrosion may have occurred.

In the future, these locations will be excavated and the pipe will be checked visually for signs of pitting and corrosive damage. Bolts at joints will also be checked. The thickness of the pipe will also be checked using an ultrasonic thickness gauge. The estimated thickness of the pipe in the existing condition will be compared to the thickness of a new pipe of the same pipe class.

Client: City of Elgin

Services Provided:

- Soil Borings and Laboratory Testing
- Field Soil Resistivity Testing
- Excavation of the Pipe and Visual and Ultrasonic Testing
- Recommend Alternatives for Elongating the Life of the Water System

This project reflects Firm
and Staff experience.