



EUCLID CHEMICAL

## PROJECT PROFILE

# ASHTABULA COUNTY PORT AUTHORITY PLANT C



## PROJECT DATA

**Location** – Ashtabula, OH  
**Application** – Underwater Concrete  
**Contractor** – Kokosing / Durocher Marine  
**Concrete Producer** – R. W. Sidley, Inc.  
**Total Cost** – Plant C Project - \$3.1 Million

## PRODUCTS FEATURED

**Eucon™ Air Mix 200**  
 Concentrated Air Entraining Agent for Concrete

**Eucon™ WR 91**  
 Water Reducing, Set Retarding Admixture

**Eucon™ 1037**  
 High Range Water Reducer - Superplasticizer

**Eucon™ W.O.**  
 Cement Stabilizer/Water Reducing, Set-Retarding Admixture

**Eucon™ AWA**  
 Anti-Washout Admixture

## SCOPE OF PROJECT

Provide underwater concrete to convert old intake pipes into outflow pipes to extend diluted discharge an additional 1,500 ft into Lake Erie. At completion, the discharge point will be about 1 mile into Lake Erie. This will in turn increase water capacity usage of Plant C from 20% to 75%.

## PROJECT SUMMARY

R. W. Sidley, Inc. worked with Euclid Chemical to design a mix that would allow concrete to be batched at one of their plants, approximately 25 minutes from Ashtabula Port Plant C. The criteria of the mix required flowable properties from ready mix plant to placement - about a mile offshore. The total time from batch to placement was approximately 3-4 hours. Once the concrete was delivered to the shoreline, three ready mix trucks had to be loaded on a barge along with a concrete pump truck to be transported to the pour location. The barge was pulled to the work site where the concrete was tested for slump and air content, then test cylinders were cast. After testing, divers/applicators entered the water and a boom was lowered 50 ft into the lake. Divers worked underwater for two hours at a time, switching for safety precautions. Each segment took 2 -2½ hours of pumping. At time of pumping, concrete slumps were between 7-8½ inches, and air contents ranged from of 5.5%-7.0% – a requirement of project specifications. The contractor wanted set times between 20-25 hours after placement, so divers had to return the following day to complete work and prepare new segment frames. Final set times were calculated at 24-25 hours with 7 day strengths over 6,500 psi and 28 day strengths reaching over 8,000 psi. Increasing the diameter of these pipes allowed local industries and power plants to use more lake water to comply with local EPA regulations.