

PROJECT DESCRIPTION

Cofferdam for Water Intake Pipeline Repair

Location:

North Tonawanda,
New York

Client:

Herbert F. Darling, Inc.

Client Contact:

Mr. Tom Swiatek
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Diver Entering Cofferdam for Pipeline Repair

The City of North Tonawanda engaged Herbert F. Darling, Inc. to design and construct an excavation support system along the shore of the Niagara River to allow the City's broken drinking water intake to be repaired. The break had occurred near the shoreline, but the excavation had to extend both on-shore and into the river to obtain access to the broken pipe lengths. This resulted in an excavation about 20 feet wide and 45 feet long. An existing marina dock abutted the edge of the excavation limits and had to be protected.

Darling engaged MMCE to design the cofferdam. First, MMCE studied available subsurface information, which identified a soft clay deposit near the pipe elevation. MMCE designed a sheetpile cofferdam with three levels of horizontal bracing to control adjacent ground movements. The bracing locations were configured so that the excavation contractor could extend the excavation down to below the damaged pipe elevation with its proposed equipment.

The contractor dredged the soil from within the cofferdam. Divers then entered the cofferdam and replaced the damaged pipe. Ground movements to the adjacent marina were limited.