

LOCATION: Milwaukee, WI**ARCHITECT OR ENGINEER:** Larry E. Ellis, P.E. (414) 272-5100**OWNER:** Milwaukee Metropolitan Sewer District**ARCHITECT/ENGINEER CONTACT:** Larry E. Ellis, P.E. (414) 272-5100**OWNER CONTACT:** Larry E. Ellis, P.E. (414) 272-5100**CONSTRUCTION MANAGER:** Larry E. Ellis, P.E. (414) 272-5100**PROJECT PROFILE**

In November of 2002, Super Excavators, Inc. completed a \$10 million project with the Milwaukee Metropolitan Sewerage District to rehabilitate the existing MIS in Clybourn Street from the Marquette Campus to 35th Street. Located in the heart of Milwaukee this project brings “Trenchless Technology” to the forefront. The project involves slip lining of an existing sewer ranging in depths from 30-70’ deep. This method allows Clybourn to be open to traffic during construction decreasing the impact of construction on neighboring businesses. This project entails slip-lining an existing brick sewer with 72” HOBAS Pipe, shaft construction, pipe installation, grouting, and miscellaneous reinforced concrete construction.

Super Excavators chose a combination of low profile bell and flush joint pipes for sliplining. The stiffness classes of the pipes supplied to the project ranged from 36 to 68 stiffness for the deep (70 foot) depths. Super Excavators chose HOBAS pipe since it was a product which they were confident they could install easily, due to their prior experience with HOBAS pipe. We were able to install the pipe with our proprietary pushing mechanism that utilized two 100 ton hydraulic rams, and a plate which backed to the existing sewer. The maximum push distance was 3,600 feet, and we could have pushed more. The long push was a requirement due to the presence of utilities that could not be easily relocated, limiting shaft locations. The HOBAS pipes were strong enough, light enough and smooth enough that pushing by this method was simple, requiring only 24 tons of force (well below the more than 200 ton design capacity of the HOBAS pipes).



PROJECT PROFILE

YES, YOU CAN SLIPLINE CURVES!

One of the greatest benefits of using HOBAS pipe was the ability to manufacture short sections which were made to order to custom fit this particular installation. We were to slipline six separate curved sections of MIS with radii of 50-feet. We took actual ID measurements and lengths of the deteriorated curved sections of the MIS and supplied that information to HOBAS engineers, who then designed a layout scheme. HOBAS also manufactured short pipes for straight sections that were contained between curves and otherwise inaccessible. These shorts were pulled through the curves, and then installed with a winch.



TOTAL VALUE OF CONTRACT:

\$15,580,051.00

COMPLETION TIMELINE:

MAY 23, 2005 TO OCTOBER 24, 2006

