

Harbor Siphons Construction

January 2007

www.mmsd.com

New sewers to help protect Lake Michigan

Part of a court ordered \$1 billion Overflow Reduction Plan, the Milwaukee Metropolitan Sewerage District's (MMSD) harbor siphons project will help reduce the risk of sewer overflows and basement backups.

It's a \$138 million effort that allows the sewage district to save room in the Deep Tunnel system during heavy rain by getting more wastewater directly into the Jones Island Wastewater Treatment Plant.

Most of the project involves digging access shafts and two 17-foot diameter tunnels under the harbor (see map).

Other work includes rehabilitating older sewers that connect to the harbor siphons and constructing a new seawall.



Technology makes project less of a headache for residents



Workers prepare to line the inside of an older sewer to give it another 50 years of service life.

Instead of tearing up streets for weeks or months at a time, sewer rehabilitation can now take place, to a large degree, underground, disrupting neighbors and businesses significantly less than in the past.

That's good news when you consider that some MMSD sewers in Downtown Milwaukee are 90 to 115 years old.

They need some work to make them last another 50 years.

To make that happen,

liners (shown left) are placed in the older sewers after a special resin is placed inside the liner.

Workers then use hot water to push the liner into the sewer and hold it

against the existing walls.

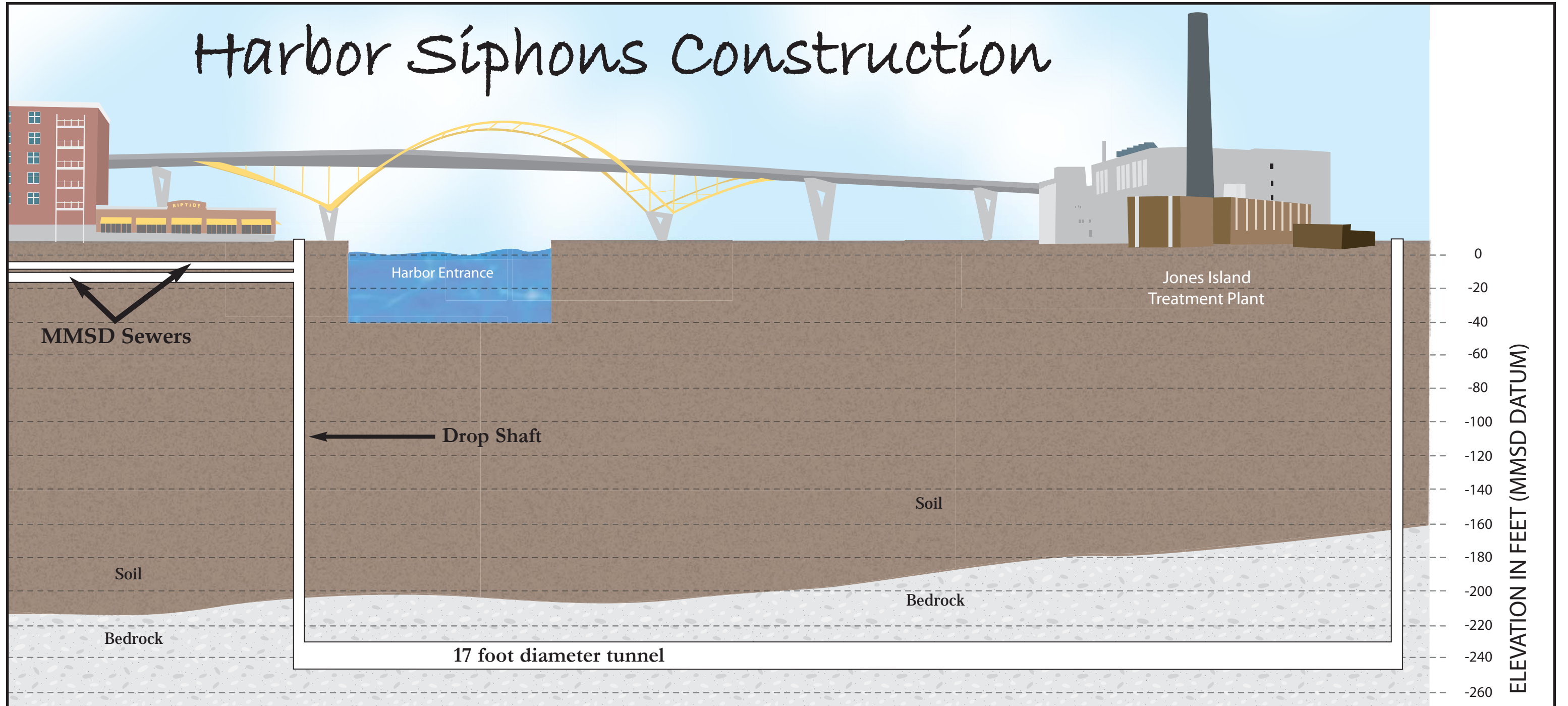
Once the resin cures, it turns as hard as thick fiberglass.

This technology has

helped MMSD save taxpayers millions of dollars and countless bottles of aspirin when you compare it to the old way of doing sewer work.



Harbor Siphons Construction



The harbor siphons deliver a majority of the wastewater that is cleaned at the Jones Island Wastewater Treatment Plant and returned to Lake Michigan.

The only other way to get wastewater into the plant is by pumping it out of the Deep Tunnel. A siphon, built in the 1980's, currently exists.

However, experts determined that another one is needed for delivering more wastewater, more efficiently, especially during rain storms.

Having more siphons will also allow the existing, older one to be cleaned and rehabilitated, something that cannot currently take place since it's always delivering flow to the treatment plant.

Controlled Blasting

To excavate portions of the drop shafts and all of the tunnels, experts will use controlled blasting to get through the bedrock underground. Special equipment will be used to monitor ground vibrations throughout the areas of construction.

All rock will be removed through a drop shaft on Jones Island.

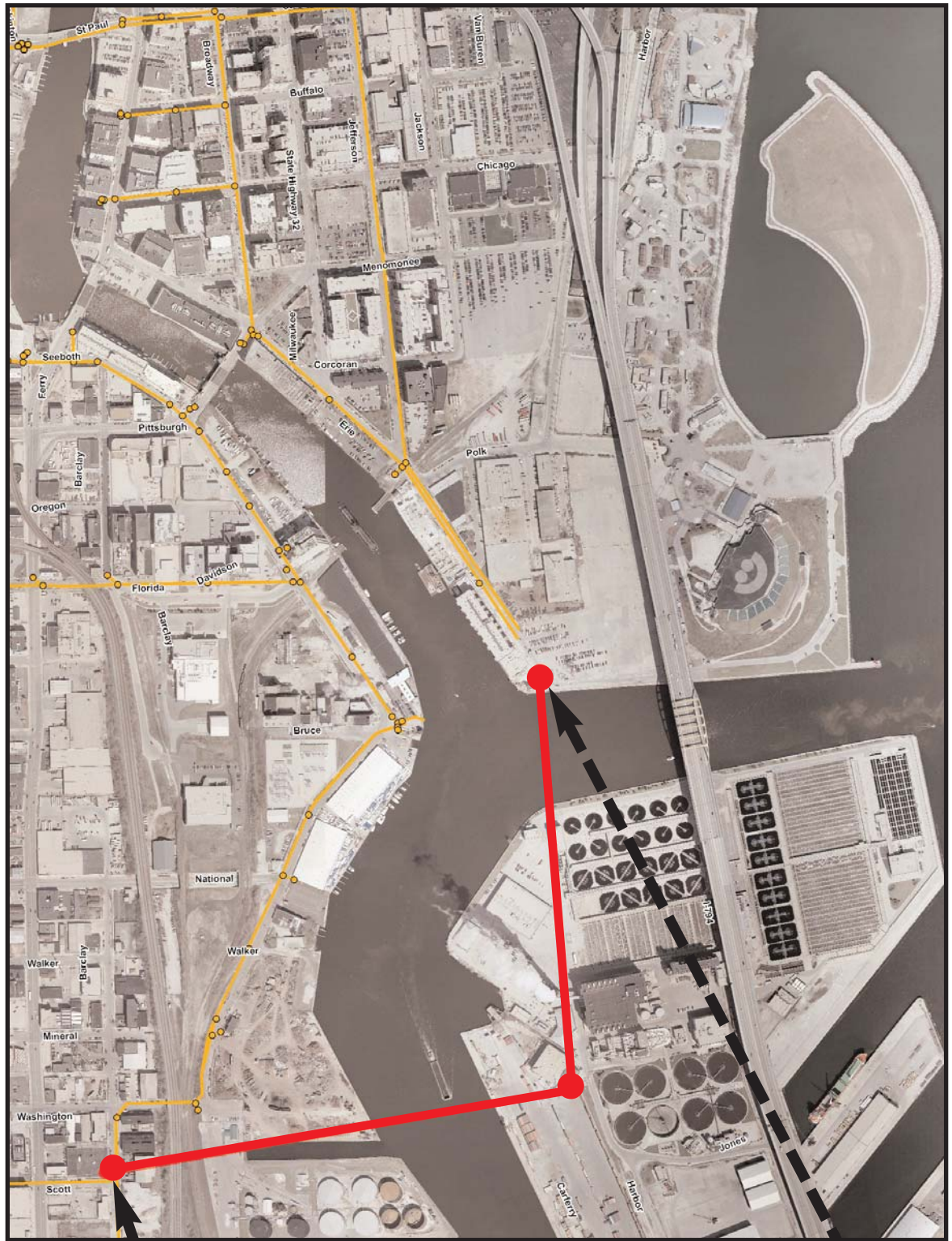
Contact Us

If you have any questions or concerns during construction, please call:

Chuck Kennedy (414) 489-0308
Bill Graffin (414) 225-2077

Or, log on to:
www.mmsd.com

The harbor siphons project is expected to take three years to complete with construction wrapping up in summer 2009.



Harbor Siphons Tunnels

MMSD Sewers
(Not all of the MMSD sewers pictured are included in the harbor siphons project.)

Scott & Barclay Streets

Drop Shafts

Erie Street

Construction is already underway on all the drop shafts and expected to continue, off and on, for the life of the three year harbor siphon project. Some work shutdowns will take place for the Erie Street drop shaft during the summer festival season.