KK River flushing tunnel could store overflow

By Kevin Meagher

MMSD is considering repurposing the former KK River flushing tunnel, depicted by the yellow line above, as a combined sewer overflow (CSO) storage facility.

The Milwaukee Metropolitan Sewerage District (MMSD) is considering repurposing the 106-year-old Kinnickinnic River flushing tunnel as a combined sewer overflow (CSO) storage facility. The intake is located adjacent to the Coast Guard Station and Sea Scouts’ site near the beginning of East Russell Avenue. It runs to the Kinnickinnic River at South Chase Avenue. The 7000-foot-long tunnel is 12 feet in diameter and could hold up to six million gallons of water.

At their monthly meeting on June 24, the 11-member MMSD commission voted to extend their contract with HNTB to Dec. 31, 2013.

HNTB is the consulting firm hired to evaluate the best outcome for the tunnel. They were originally contracted to determine whether aeration of the Kinnickinnic River estuary, by operating the tunnel’s flushing system, was needed. Their initial analysis was to determine if the flushing station was effective and improving water quality, according to Tim Bate, MMSD’s Director of Planning Research and Sustainability. HNTB
concluded that the pumping station should not be renovated.

MMSD now must decide the best course of action for the tunnel. They will either decommission the tunnel or renovate it to store CSO during heavy rainfall. Bate believes it will probably be used to store CSO, but this would be only in extreme weather conditions. HNTB’s contract has been extended to determine whether this use is feasible. HNTB’s contract was raised from $354,860 to $457,626 to cover the extension.

If employed, the flushing tunnel would take in water after the deep tunnel system had reached its limit and closed. Currently the tunnel is connected to the deep tunnel system by a drop shaft. Should HNTB determine CSO storage is feasible for the tunnel, there may need to be minor construction.

“…No major excavation was anticipated and (the) possible construction that may result would be lining the existing flushing tunnel, although that is not a certainty at this time” said Bate.

Lake Michigan water flows into the KK River Flushing tunnel at this intake, which is adjacent to the Sea Scouts’ site and Coast Guard Station several hundred feet east of the intersection of
The Kinnickinnic River flushing station was initially built to flush pollutants from the river’s estuary, but it eventually became obsolete due to improvements in wastewater collection and treatment systems. Later the tunnel was used to pump lake water to the river during periods of low dissolved-oxygen levels in the estuary. The practice was abandoned in 2008 when concern grew over sediment accumulation blocking the outlet structure of the tunnel.

Reports that MMSD is considering reinstituting the tunnel caused some Bay View residents to become concerned about the effects it might have on their homes, particularly basements in the area. “The last thing you need is basements flooding. I would hate to see any of us have that problem” said long-time Bay View resident Judy Rigden.

However the Kinnickinnic flushing tunnel was never a source of such problems, although other tunnels in Bay View have caused structural damage to homes in the past as well. In 1993, the construction of the Kinnickinnic-Lake Michigan deep tunnel system caused cracking in the basement walls of some homes on South Linebarger Terrace and East Pryor Avenue. MMSD paid homeowners up to $37,000 each for the damage, as well as to some businesses and property owners in downtown Milwaukee, who also experienced damage. It is unlikely the construction necessary to upgrade the flushing tunnel would require the kind of construction that could damage property.

It is MMSD’s highest priority to prevent water backup in basements with the project, Bate said.