



## Memorandum

DATE: January 31, 2013

TO: Board of Public Works

FROM: Mark Radtke, Director of Public Works *MR*

RE: Notice Regarding Ninth Street Lift Station and Force Main Improvement Project

The City of Menasha has experienced several sanitary sewer bypasses in the Ninth Street Lift Station drainage basin in the past with the most recent bypass occurring in June, 2008. These bypasses occurred because the capacity of the lift station was exceeded, requiring relief through bypassing of the wastewater to the storm sewer system.

After the 2008 bypass, WisDNR issued an order for the City to enter into a Compliance Agreement with WisDNR to identify and correct system defects in order to minimize the likelihood of future bypassing. A section of the Compliance Agreement addressed the shortcomings in the Ninth Street Lift Station drainage district.

The Ninth Street Sewage Lift Station serves approximately 122 acres within the northeastern portion of the City. Most of this district is comprised of single family residential development. The drainage district boundary and existing land use are shown on the enclosed drawing.

Wastewater from the Ninth Street Lift Station district is collected by gravity sewers and conveyed to the lift station, which is located 220 feet west of the intersection of Ninth Street and Elmwood Drive. The wastewater is pumped from the lift station to a receiving sanitary sewer at the intersection of Plank Road and Melissa Street.

Two sewer system evaluation surveys (SSES) have been completed in the drainage district. The purpose of the SSES programs was to identify sources of infiltration and inflow along with defects and deficiencies in the sewer system. The first SSES was performed in 2002 with recommended improvements completed in 2003. The capacity of the lift station continued to be exceeded after the sewer rehabilitation work was completed.

A second SSES was completed in 2009 which identified additional cost effective rehabilitation work in the drainage district. In spite of these corrective measures, the wastewater flows continue to exceed the current capacity of the lift station. The lift station has a number of deficiencies. The pumps have inadequate capacity to handle the peak wastewater flows. The sewage lift station structures are 46 years old with moderate corrosion occurring at areas of coating failure, weld seams and interfaces with piping and brackets. The steel floor's protective paint coating is entirely gone and moisture from condensation has corroded the steel.

A video inspection of the 6" sewage force main determined that deposits in the iron pipe have reduced the cross sectional area of the pipe by 15 to 50 percent at various sections of the force main. The force main runs from the lift station along the south side of Ninth Street to the east side of Melissa Street to the south side of Plank Road.

Proposed improvements for this project include the following:

1. Replacement of 6" iron pipe force main with 8" plastic pipe force main
2. Blasting, cleaning and painting of the interior and exposed exterior surfaces of the lift station's steel access tube and equipment chamber
3. Installation of a cathodic protection system
4. Access stair and wet well improvements
5. Installation of variable frequency drive units (possible Focus on Energy partial rebate due to energy savings)
6. Replacement of control panel and installation of a secondary pump control system.

The estimated cost for this project is \$459,400. This project will be financed with a low interest loan at a rate of 2.625 percent from the Wisconsin Clean Water Fund. The debt service amount has been included in the recently adopted user charge update so there will be no user charge rate increase resulting from this project.

A March 12, 2013 bid date is anticipated for this project with force main work being completed by May 31, 2013 and the lift station improvements completed by August 31, 2013. There will be no service interruptions at any time during the project.

Enclosure

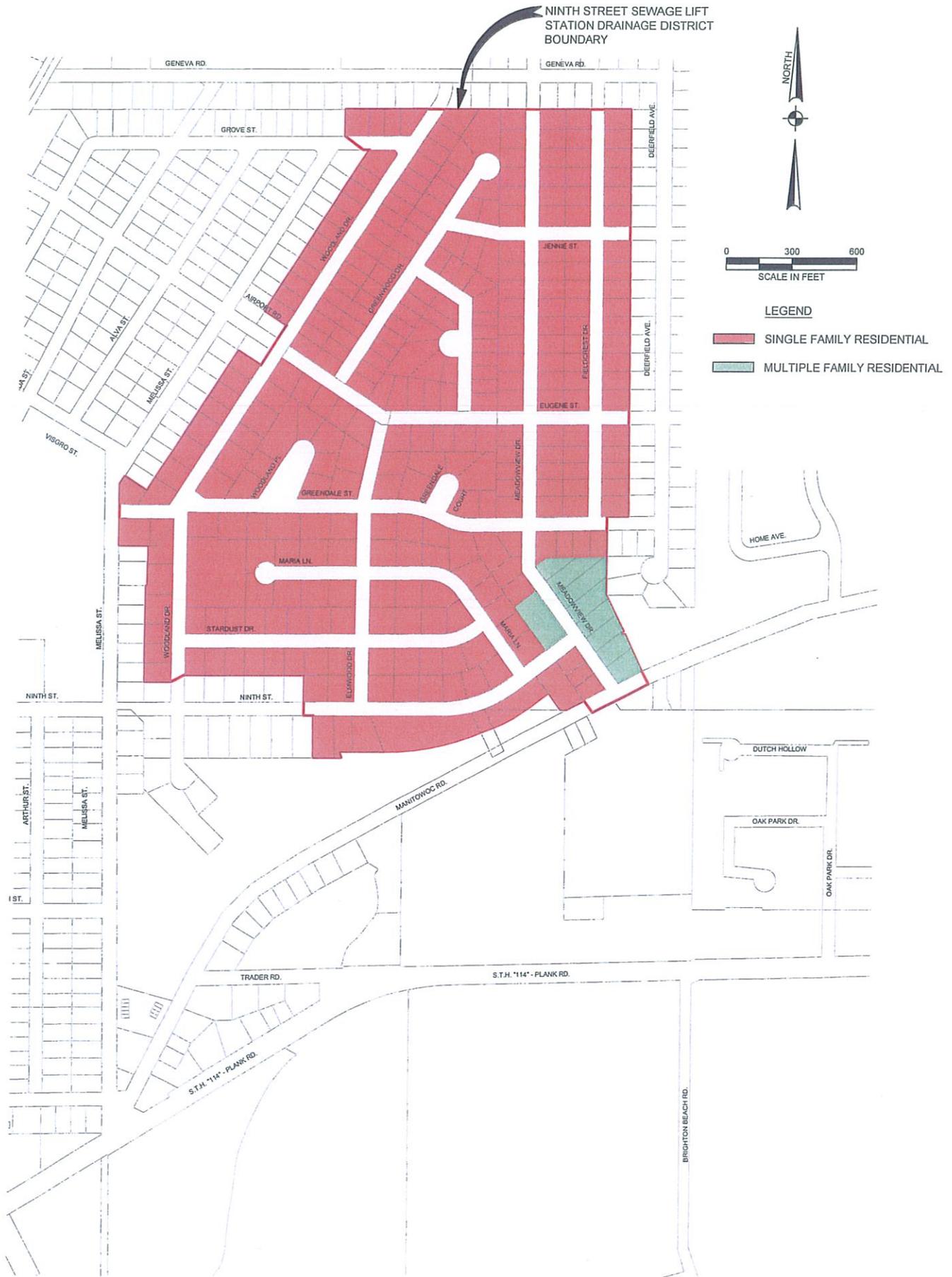


Fig. 2 Drainage District Land Use

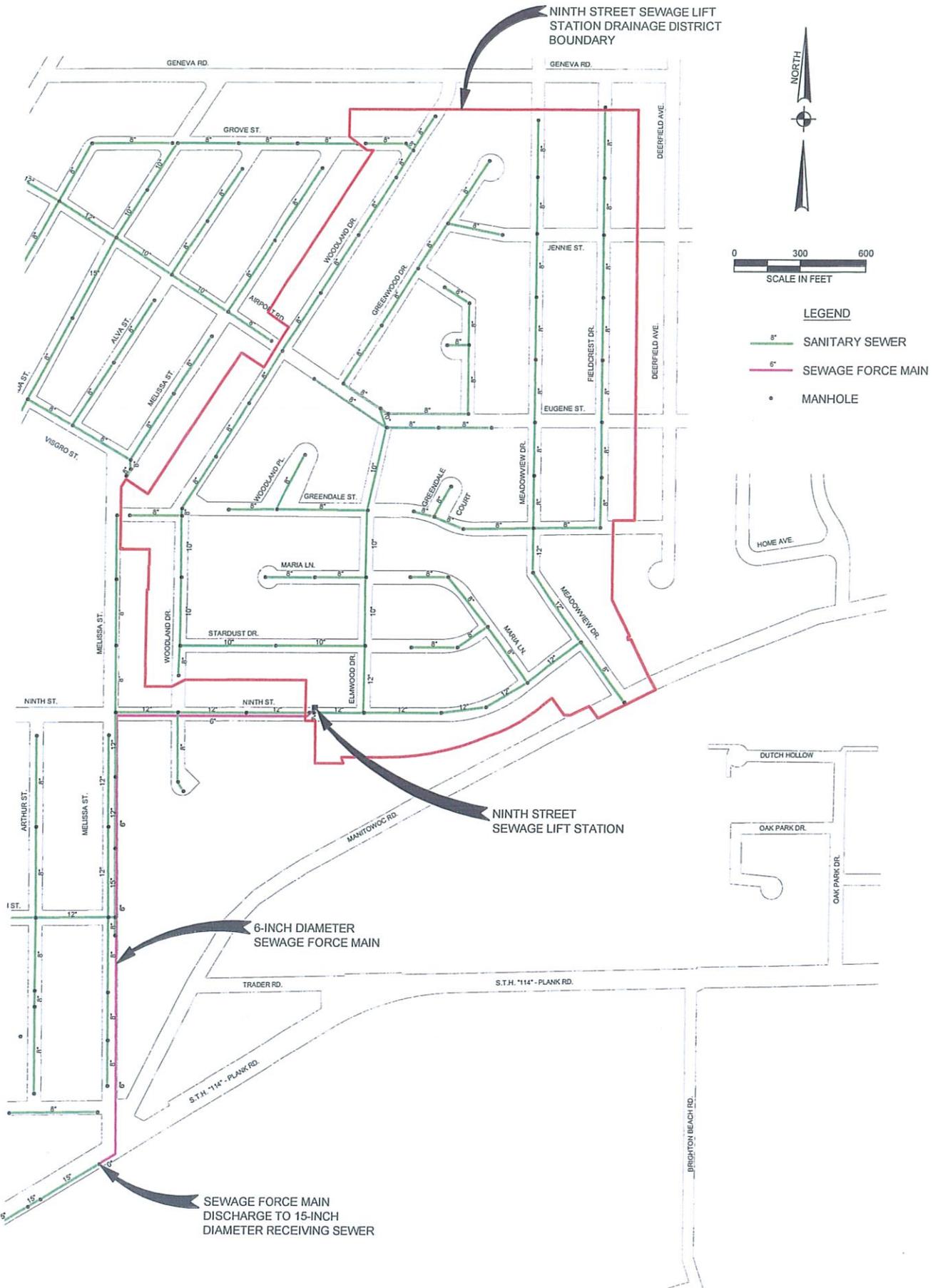


Fig. 3 Existing Wastewater Collection System

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