


Memorandum

TO: Administration and Finance Committee
Board of Public Works

FROM: Joseph Burtch, Assistant City Engineer 

DATE: February 5, 2013

RE: Communication from the Assistant City Engineer regarding a proposal to establish a Private Property Inflow/Infiltration Reduction Fund.

The primary purpose of this fund is to provide a mechanism for improvements on residential private property to reduce inflow and infiltration (I/I) in the City's sanitary sewer system from private property sources, such as foundation drains and leaking/failed services. The sanitary sewer system in West Allis is aging. A significant amount of the public system has been rehabilitated as part of the City's regular maintenance program due to the deterioration of pipe and structures. The City has diligently inspected and maintained the public system throughout its existence. In general, residential property owners do not inspect or maintain their private sanitary service until they experience a problem. The elimination of excessive inflow and infiltration on private property is an effective and efficient method to significantly reduce clear water entering the sanitary system during rain/wet weather events.

This fund would also provide a great benefit to the residential property owners. The vast majority of private sanitary services are clay pipe, which has a life expectancy of 75 to 100 years. Many of these private services are past their expected useful life, many leak significantly and many are beginning to fail. The average cost to repair a failed sanitary service is between \$6,000 and \$12,000, with some repairs exceeding \$30,000. This fund would provide protection to the residential property owners by paying for the rehabilitation of their failed or leaking sanitary service. This fund would also provide disconnection of foundation drains from the sanitary system to comply with the current plumbing code for foundation drains. Rehabilitating sanitary services and installing sump pumps to disconnect foundation drains from sanitary services will significantly reduce the amount of clear water entering the sanitary system, which in turn provides additional protection from sanitary sewer back-ups throughout the city.

Property owners will retain ownership of the sanitary service from the connection at the sewer main to the building. The following are the responsibilities of the property owner:

- General maintenance of the service
- Removal of blockages in the service (a blockage is debris lodged in the service that can be removed without repair to the existing pipe)

- Cleanup from basement back-ups caused by blockages/failures in the service
- Inspection of the service (inspection by closed circuit television)
- Provide proof of service failure or excessive inflow and infiltration to the City (ie. Video of inspection or evidence from plumbing/pipe cleaning professional)

The City of West Allis Private Property Inflow and Infiltration Reduction Fund will provide the following:

- Full rehabilitation of failed sanitary service from the main to outside of building (requires proof of failure from owner; a failure is a collapse of the existing service pipe that must be repaired, usually by excavation, to restore functionality of the service)
- Full rehabilitation of sanitary service with excessive inflow and infiltration from main to outside of building (requires proof of excessive I/I from owner) Note: services will be prioritized and rehabilitated as funding allows
- Disconnection of foundation drains from sanitary system (sump pump installation) Note: sump pump installations will be done when feasible, as determined by Engineering
- Sanitary service rehabilitation and/or disconnection of foundation drains on City Contracts in areas targeted for sanitary flow reduction

The proposed fee for each property is \$32 annually. This can be done with an additional fee charged with the property tax bill, or as a quarterly charge of \$8 on the utility billing. There are approximately 17,382 residential properties in West Allis. (Residential property is defined as property with one to three residential units and no commercial, industrial or institutional use.) The proposed fee will generate approximately \$556,224 annually. This amount should be adequate to fund the failing laterals along with funding additional projects targeting areas where flow reduction is required. At this level of funding it would take over 200 years to rehabilitate all of the residential services using the current methods. The City also receives funding from Milwaukee Metropolitan Sewerage District to be used for reduction of I/I on private property. We received approximately \$400,000 to be used in 2013. The MMSD funding cannot be used for repair of a failed service, but can be used to rehabilitate a leaking service and disconnection foundation drains. The combination of these funds along with upcoming improvements to rehabilitation technology will significantly reduce the time required to rehabilitate all of the services.

This program is not intended to instantly resolve the problems of aging private sewer infrastructure. It is intended to be a long term program to provide continued support to residential property owners. The entire City will benefit from the reduction in sanitary flows due to the reduced risk of sewer back-ups and reduced cost of future sewer expansion. Each individual property will eventually benefit from the rehabilitation of their sanitary service.

Other cities are dealing with similar problems in their sanitary systems. Attached to this memo are some examples of how other municipalities have addressed the issue.

Cc: Mayor Dan Devine
Paul Ziehler, CAO
Mike Lewis, Director of Public Works/City Engineer

Other Cities Private Property Inflow and Infiltration Plan Comparisons

Many Cities around the country have adopted a plan to remove private property I/I. The plans vary greatly, but ultimately serve the same purpose. Below are examples of methods used to address the private sources of I/I.

Greenfield, Indiana, pop. 20,000: The city implemented a lateral replacement program to eliminate basement back-ups. Originally, the portion of the lateral in the right of way was replaced with the option to have the remaining portion replaced for a \$200 fee. Only 5% opted for the remaining portion of lateral to be replaced, so the city decided to fund the entire replacement. The city allocates \$500,000 annually in the Capital Projects budget for the lateral replacement program.

McMinnville, Oregon, 10,000 lateral connections: Acting under a Consent Decree with the State of Oregon, the city implemented a lateral inspection and rehabilitation program. Under this program laterals were inspected using closed circuit televising. The service within the right of way was replaced and the property owners were notified if any rehabilitation is required on the remaining section. The city offers \$250 toward the rehabilitation if the property owner completes the repair within 90 days. After 90 days, the property owners have 10 months to have the lateral rehabilitated before receiving a \$500 fine.

Erie County, Buffalo, New York, 100,000+ lateral connections: Erie County's sanitary system cannot handle any additional flow, but the County has a lot of space for development. The sanitary system experiences a high number of overflows due to high I/I from private property. In order to allow further development, the New York State Department of Environmental Conservation required Erie County to come up with a plan to make capacity available within the sewer system. In response, the County came up with a lateral replacement program aimed at developers. If a developer wants to add new connections, they must first remove four times the proposed peak flow expected from that development from the existing system. Developers are credited 42 GPM for each lateral they rehabilitate. The County inspects existing laterals to generate a list of potential laterals for rehabilitation.

City of Racine, Wisconsin, pop. 80,000: Over half of the homes in the City of Racine are over 75 years old. The City expects the frequency of private service failures to increase greatly in the near future. The City has taken over the responsibility for structural failure of private sanitary laterals within the road right of way in an effort to eliminate the great financial burden property owners face when sanitary services fail in the street. The property owner retains ownership and general maintenance responsibilities. Property owners are charged \$50 annually for this service.