THE CITY OF WASHINGTON

"Cleanest City in Iowa"

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Mr. Paul Brandt
Iowa DNR Field Office No. 6
1023 W. Madison Street
Washington, Iowa 52353

RE: Inflow and Infiltration Semi-annual Report

Dear Mr. Brandt:

This is a report on Inflow and Infiltration (I&I) activities by the City of Washington.

Prior Work

Some smoke testing was carried out by the previous Building and Zoning Official and an assistant from the wastewater treatment plant in 2009 or early 2010. At least one large drainage area has been smoke tested—roughly on a SW-NE line extending from the wastewater treatment plant (south of Buchanan Street) to Sunset Park (H Avenue & Main) and then to Highland Avenue. The Building & Zoning Official resigned in mid-2010. The new Building and Zoning Official has been occupied with learning his new duties, but should be in a position of continuing the smoke testing during the Spring of 2011. The smoke testing data has been lost in the staff shuffle so we need to make further attempts to find it.

Manholes in this same drainage area have been inspected and documented for condition, depth, and type of pick hole during 2009.

Recent Activities

A downspout survey was started in December 2010 with inconclusive results so far. Other methods of reducing I&I may be more productive due to the many property owners involved.

Considerable dye testing, surveying, and design work was done during December 2010 and January 2011 in the West Tyler Street area between Avenue B and Avenue D. As you know, a realtor is trying to sell a house for Federation Bank at 321 W. Tyler. The existing connection to a substandard sewer is a concern to the realtor. This substandard sewer line is contributing to considerable infiltration that is visible at the manholes at D Avenue & Tyler. This is causing severe sewer backup problems for a homeowner located at D Avenue. The City has two options: line the existing 6" line or install a new line on Tyler east of C Avenue. Three easements are required for the new sewer, so progress could slow considerably if the property owners do not cooperate.

A meeting of City Council was held on Thursday, January 26, 2011 to set project priorities for the coming year or two. I&I was shown as a priority on the "ongoing list" of projects. I provided council with a list of projects that could be priorities, some of these were I&I projects, and hoped to get some direction as to which projects were important. I was not given much direction by the council as to which I&I projects were important, although two counselors emphasized the importance of addressing I&I. One of them said that reducing water going into the wastewater treatment plant would reduce energy costs (for pumping). Another councilor emphasized Sunset Park I&I over sewer lining.

Potential Investigations and Projects

Quite a number of sewer lining projects and sewer separation projects were identified in the current Capital Improvement Program (CIP). Additional I&I projects have also been identified, which include:

- Further investigation of the alley east of Sunset Park Drive and north of Madison Street where smoke testing indicated possible cross-connection
- Washington and 7th sewer separation (two intakes ½ block north are connected to the sanitary sewer)
- West Tyler Street sewer between B and D Avenues (line existing or provide new sewer)

In addition, quite a few manholes with open pick holes have been identified during a manhole survey. Unfortunately, other projects have taken priority over the last three to four years. There is a tendency to address the surface issues first (driven by citizen complaints and appearances) and to overlook the underground infrastructure.

Limitations

Limitations in staff time, staff turnover problems (misplaced data, retraining needs, and resulting delays), and budget limitations are problems that continue to restrict the amount of time and money that can be devoted to I&I solutions. The approximately $18 million cost of the new wasterwater treatment and the approximately $300,000 for the West Side Trunk Sewer are absorbing a great deal of available money. However, the City can still pursue lower-cost I&I projects, especially those that can be done in-house.

Proposed Investigations and Projects

Specific, capital intensive projects have not yet been endorsed by city council. I think the guiding factors in setting priorities, at this time, should be effectiveness of reducing I&I combined with low cost. Projects done in-house can help keep the cost to a minimum. Some in-house projects that should be pursued are:

- Investigate east of Sunset Park by dye testing
- Washington & 7th sewer separation
- A small project or improvement endorsed by the Sanitation/Water/Sewer committee or the City Administrator (possibly West Tyler sewer, Sunset Park area, or manhole lid seals)

I will have to prioritize some I&I projects listed on the CIP for the city council's Sanitation/Water/Sewer Committee and/or the City Administrator for their consideration for future construction.

Sincerely,

Robert J. McDonald

Robert J. McDonald, P.E.
City Engineer