

Highlights of I&I Study (Inflow and Infiltration) Report - Kutzky Park Study Area

The study is not finished; they have not captured data from a large rain event in the past two years. On 6/11/08 had a 2.5" rain, last sewer back-up event was 8/07/07, a 6.75" rain. (100 year rain event on weather data charts) They will continue to monitor flows in 2010 hoping to catch a bigger event that will improve the current projections.

Believe 60% of I&I is from public system – manholes, cracked pipes and roots. 80% of manholes had chimney and/or seal problems; 40% of mains had cracks and 25% had root penetration. They documented over 8000 defects (in all areas combined).

40% of I&I is from private laterals – damaged lateral piping, root penetration, illegal sump pumps and beaver systems (these last two not in Kutzky too much).

Goal is to rehabilitate and maintain system so that a 10 year flood event will not overflow the system – this would be a 4+ inch rain event. In our study area, from current data projections, several sections of the public system are over 100% filled by a 10 year event.

Actions:

- Perform repairs on 100 manholes in 2010 (most identifiable public deficiency)
- Replace the 11th Ave siphon (at Cascade Creek) in 2012; study shows this is where our local system begins to back-up – increase pipe size to provide increased accretion tolerance and allow for easier, better cleaning.
- Implement more intensive maintenance program on roots (maybe use chemicals)
- Be more vigilant in fats, oils and grease program (with Building Safety and Public Health Depts.)
- Complete data collection and do a cost to benefit analysis. Make a “*least cost*” plan. Determine where best to upgrade public system for maximum protection. Determine what policy changes to impose on private properties to remediate deficiencies in laterals.
- If your home was in the study area you will get a letter detailing the findings for your system - *in compliance* or *not compliant*. If you had no inspection or if they could not get a camera into your lateral it will say *no determination*. Estimate 40% compliant, 40% in poor condition. 90% of houses in KP were checked but only about half of those laterals had video inspections.

Conclusions:

- System, in general, works fine. If you live near the corner of 12th Ave and 2nd St NW you are still vulnerable in a large rain event; > 4”.
- 130 sewer backups city wide (with 500 miles of pipe) in 2007 was a direct consequence of a 100 year rain event. There will always be a point where I&I will overflow the system.
- Identified stricture points will be addressed and improved (11th Ave siphon, Center street main connecting from west at 12th Ave, 2nd St NW main going east from 12th Ave, main traversing Kutzky ball field by the old bakery).
- Public, with the city council, needs to decide how to manage the private connections for the best overall good of the community. How do we find and remediate the laterals in the poorest condition? Who pays?

Submitted by D.A. Edmonson 2/23/10

Addendum: 60 slide PowerPoint will be posted on City Website (under Public Works) after 2/24/10