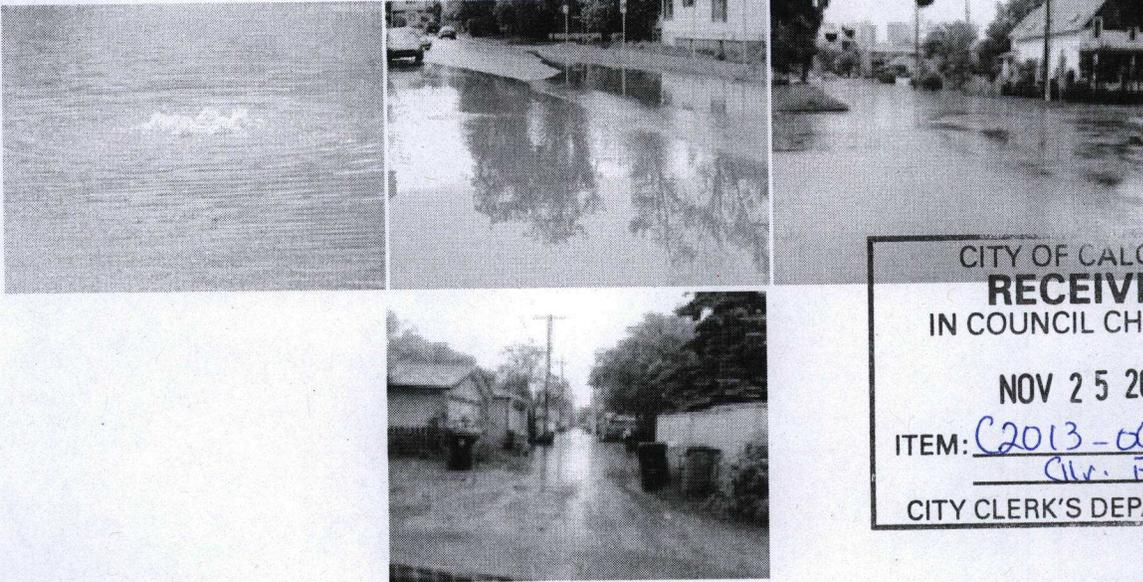


## Executive Summary

### Recurring Storm Sewer Back-ups

#### Sunnyside – 8<sup>th</sup> Street between 2<sup>nd</sup> and 3<sup>rd</sup> Avenues NW



For at least 25 years there has been storm sewer surcharge at 8<sup>th</sup> Street between 2<sup>nd</sup> and 3<sup>rd</sup> Avenues NW during heavy rainfall when the Bow River level is high (storm gates are closed). The manhole surcharge pools along 8<sup>th</sup> Street and down the alley between 2<sup>nd</sup> and 3<sup>rd</sup> Avenues, flooding 15 or more homes on that block. Back-flow prevention valves in manholes could prove somewhat effective in reducing the storm sewer flooding in that specific area.

In 2009 (NW INNER CITY DRAINAGE STUDY, Associated Engineering) recommendations were made to increase the size of pipe running along that segment of 8th Street. The overall strategy of the Study was to provide 1) storage for excess runoff and 2) additional pipe capacity where it provides the most relief to surface flooding. Significant underground storm water storage was recommended by the study (Upper Plateau-Option 5):

5000 m3 within Capitol Hill (Project 2)

16,500 m3 near 14<sup>th</sup> St. and 14<sup>th</sup> Ave NW (Project 1)

3800 m3 along 17<sup>th</sup> Ave. NW from 9<sup>th</sup> St. to 13<sup>th</sup> St. NW (Project 3)

Surcharging was determined to be due to:

**Undersized storm sewers resulting in flooding manholes and overland flow**

Lack of a continuous major system resulting in accumulations of overland flow in traplows

Large head loss in the drop manholes along 10<sup>th</sup> and 14<sup>th</sup> Streets NW

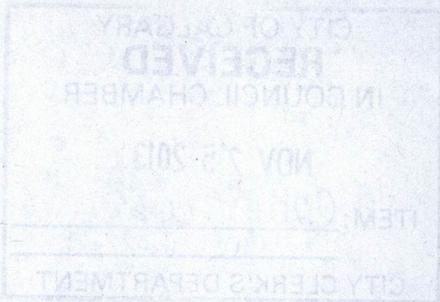
**Sunnyside residents were hit very hard in recent storm drainage flooding and need help to prevent repeated storm sewer back-up.**

**Could we escalate Projects 1, 2 & 3 to a higher priority on Drainage Improvement Upgrade Prioritization List?**

**Could a back-flow prevention valve be installed as a short-term solution?**

Reducing Storm Sewer Backups

Subsidence - 3rd Street between 2nd and 4th Avenues NW



For at least 25 years there has been storm sewer subsidence at 3rd Street between 2nd and 4th Avenues NW. During heavy rainfall, the low river level is high (storm water is raised). The mainline subsidence along 3rd Street and down the alley between 2nd and 4th Avenues is about 15 to 20 mm per year. The block backflow prevention valves in this area could provide some relief in reducing the storm sewer flooding in that area.

In 2008, NW District Drainage Study (NWD) adopted a number of recommendations which were to provide the use of pipe running along the bottom of the street. The mainline subsidence in this area is due to the use of pipe running along the bottom of the street. The mainline subsidence in this area is due to the use of pipe running along the bottom of the street. The mainline subsidence in this area is due to the use of pipe running along the bottom of the street.

2500 m<sup>2</sup> area near 2nd and 3rd Avenues NW (Project 13)  
 2500 m<sup>2</sup> area near 3rd and 4th Avenues NW (Project 14)  
 2500 m<sup>2</sup> area near 4th and 5th Avenues NW (Project 15)

Subsidence results were not very bad in recent storm drainage flooding and need to be prevented to avoid a major sewer backup.

With the existing Project 1, 2 & 3 to a higher priority on drainage improvement, the results will be a lot better.

Could a back-flow prevention valve be installed as a more permanent solution?