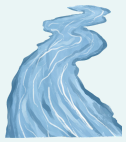
ARROW UTILITIES

FLOW FACTS: YOUR USED WATER SYSTEM AT WORK

# FLOW FACTS

## INFLOW & INFILTRATION



### What is Inflow and Infiltration

Inflow and infiltration (I&I) occurs when rainwater and groundwater enter the wastewater system through manholes, pipe joints, concrete cracks, aging infrastructure, and other pathways. While this water is generally clean, it takes up valuable capacity in the wastewater system and places additional pressure on municipal and regional infrastructure that is designed primarily to transport and treat wastewater from homes and businesses.

### WHERE DOES I&I COME FROM?

1. **Aging infrastructure affected by high groundwater levels**
2. **Groundwater entering through cracks and pipe joints**
3. **Sump pumps improperly releasing into wastewater systems**
4. **Manholes below the water level in ditches**

### Why does it matter?

During dry weather, wastewater systems primarily convey wastewater generated by homes, businesses, and industry. During significant rainfall events, however, large volumes of rainwater and groundwater can enter the system. This additional water must still be pumped, transported, and treated, placing considerable pressure on municipal and regional infrastructure and increasing operating costs.

### How much difference can rain make?

Under normal conditions, ARROW treats approximately 80 million litres of wastewater each day. During the June 1–2 rainfall event, flows peaked at nearly 240 million litres per day after approximately 80 mm of rain fell across the region. Much of this increase was caused by I&I as rainwater and groundwater entered wastewater systems.

During the June 20–22 rainfall event, some communities received approximately 106 mm of rain, more than double the earlier storm. Because bypasses were required to manage the extraordinary flows, the total volume that entered the regional system cannot be quantified, but is significant.

### Why can't this be quickly addressed?

Reducing inflow and infiltration is a long-term challenge that requires ongoing investment in wastewater infrastructure, wet weather management strategies, and system renewal across the region.

### What can be done by municipalities?

Municipalities can help reduce inflow and infiltration through ongoing wastewater infrastructure renewal, including sealing pipe joints and repairing or lining cracks in concrete infrastructure with impervious materials to prevent rainwater and groundwater from entering the wastewater system.