

Wastewater Collection

Start of Block: Default Question Block

We greatly appreciate you helping us learn more about the impact of low influent flows on wastewater collection systems. This questionnaire should take no more than 10 minutes to complete. If you leave this site before completing the questionnaire, your answers will be automatically saved and appear in the questionnaire when you return to complete it.

Responses to this survey will be aggregated and made anonymous. No information that can identify your agency or facility will be shared or reported outside the project team.

To begin, please tell us the name of your agency and the treatment facility your collection system drains to.

Agency Name _____

Facility Name _____

As we proceed with our work, we will likely have follow-up questions and hope to continue to communicate with you. As such, please provide your name, email address, and **telephone** number.

Contact Name _____

Email Address _____

Telephone Number _____

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Since 2011, has your wastewater collection system experienced any challenges related to low wastewater flow that required operational changes or modifications to your system?

Yes

No

Skip To: Q12 If Since 2011, has your wastewater collection system experienced any challenges related to low waste... = No

If an item listed below was not a challenge, mark “none”. For “major” or “minor”, we are interested in your general assessment. A challenge that was widespread or happened frequently or required significant changes in your workload/costs is “major”. A “minor” challenge is one that could not be ignored, but could be mostly handled as a normal part of your operations.

Challenges involving blockage and/or overflows

| | None | Minor | Major |
|---|-----------------------|-----------------------|-----------------------|
| Solids accumulation/settling in the pipes | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Root intrusion | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Biological growth | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Methane generation | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (indicate what): | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Challenges involving equipment and/or physical infrastructure

| | None | Minor | Major |
|--|-----------------------|-----------------------|-----------------------|
| Solids accumulating in pumping facilities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Solids blocking or restricting pumps and valves | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Increased corrosion of equipment (e.g., pumps, sensors) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Increased corrosion of structures (e.g. pipes, manholes) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pipe fractures or breaks | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (indicate what): | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Operating challenges

| | None | Minor | Major |
|---|-----------------------|-----------------------|-----------------------|
| Odors | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Production of methane or other gases (non-odor) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| High mass loading events (i.e. surges in solids loading) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Restriction of pipe capacity (not enough to cause a blockage) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Increased power requirements or energy use | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Other (indicate what): | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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For the challenges your system experienced related to lower influent flows, please answer the following questions.

Please describe in the box below what changes in equipment or capital infrastructure (e.g., monitoring, chemical injection, pumping, manholes, pipes, or structures) did you take to address the challenges.

**What changes in operations and maintenance did you take to address the challenges?
Select all that apply.**

- Used more labor – increased hours, additional staff, more hours of contracted cleaning services
- Employed more outside technical help (engineering consultants or specialized services)
- Increased frequency of inspections
- Increased frequency of preventative clean-outs (i.e., sewer flushing, pipe routing)
- Purchased more or different chemicals
- Other (please describe): _____

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In the future, given current capacity of your systems, over what range would low wastewater flows require remediation actions?

- Less than 5% flow reduction
- Between 5% and 10% flow reduction
- Between 10% and 20% flow reduction
- Greater than 20% flow reduction
- Not Sure

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Please provide, in the space below, any details that would help us understand any remediation actions needed to respond to future low wastewater flows (for example, particular challenges they will cause in your system, or particular challenges you expect in responding to them).

End of Block: Default Question Block

Thank you for your time! This completes the questions for wastewater collection. If you are completing the survey for wastewater treatment or recycled water, please select those links from the original email.