



# NEW Water Update

Municipal & Industrial Partner Meeting

October 20, 2022



# Today's Agenda

- Welcome / Updates – Tom Sigmund, Executive Director
  - 2023 draft budget
- PFAS Regulatory Update – Sara Georgel, Pretreatment Coordinator
- Inflow & Infiltration Update – Lisa Sarau, Staff Engineer

# NEW Water Updates from Executive Director

- *2023 Budget*



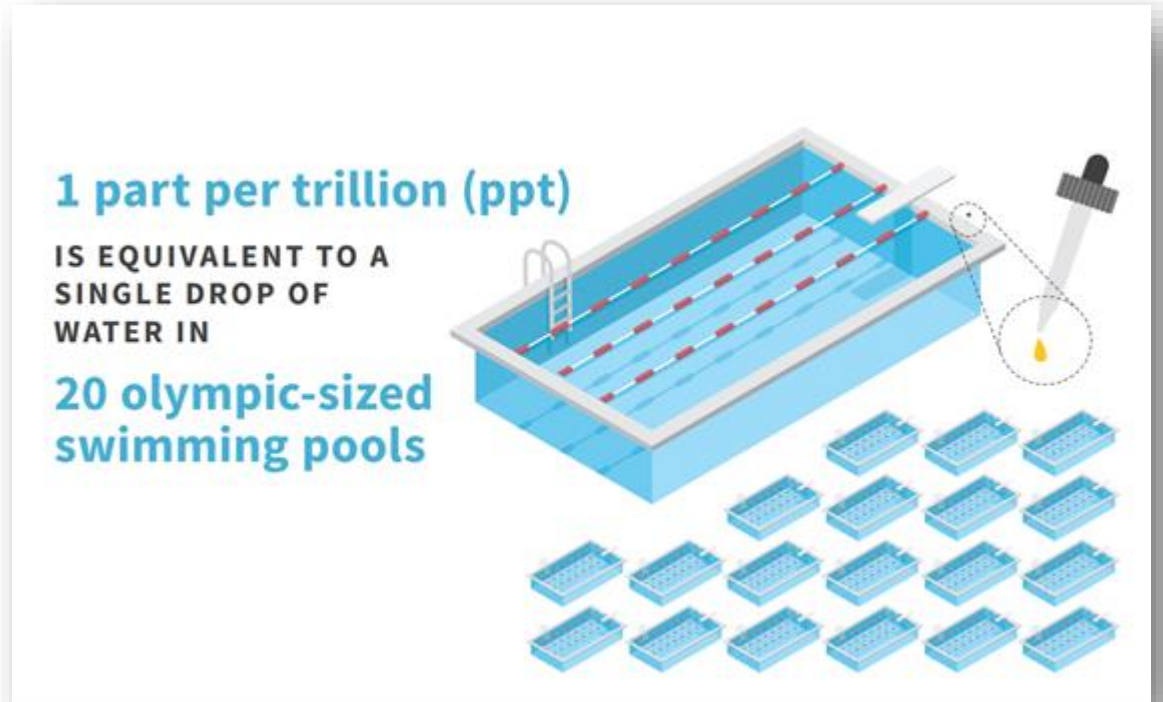


# PFAS Regulatory Update

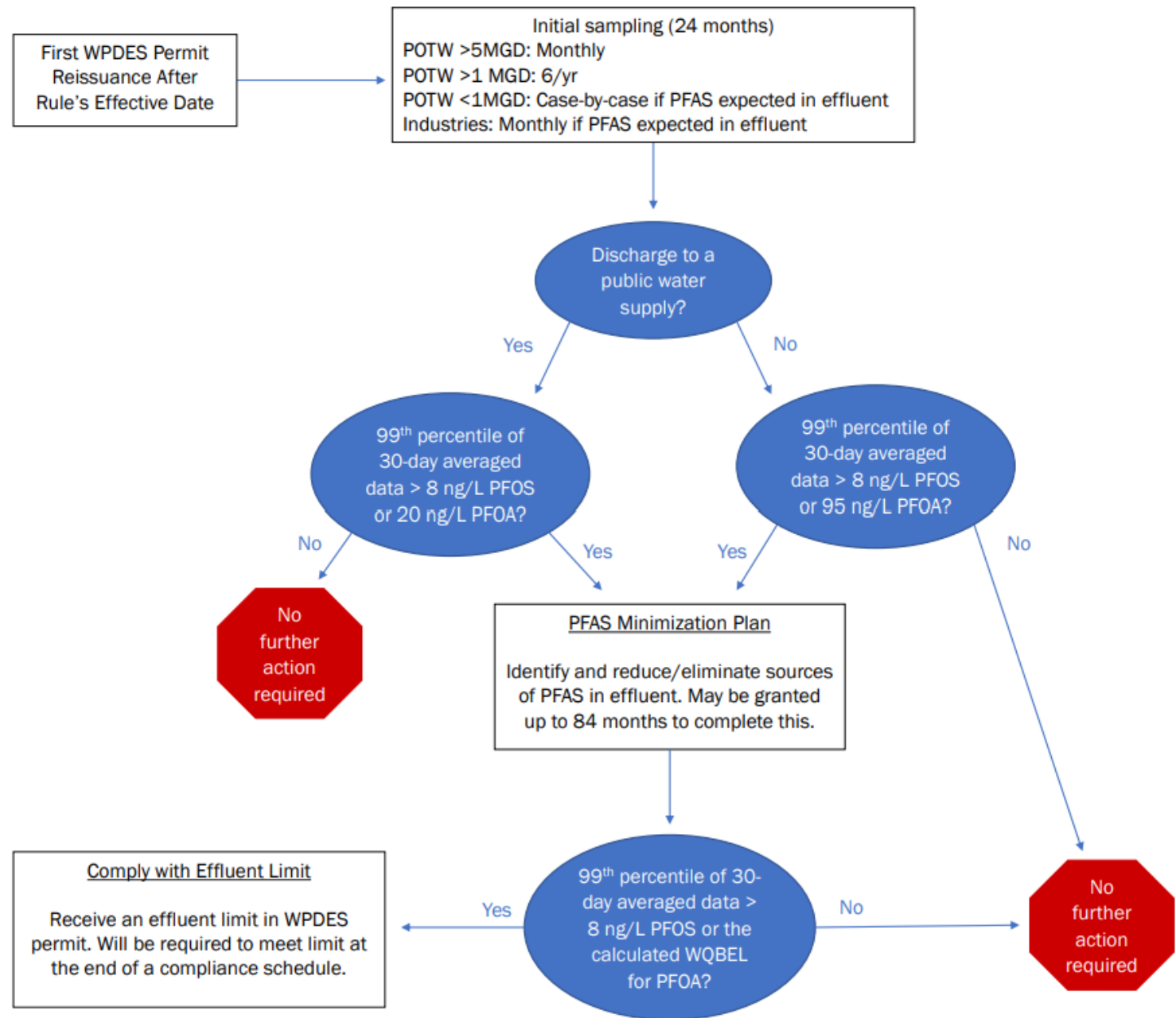
Surface Water Quality & CERCLA Rules

# Surface Water Quality Rule

- Limits for surface waters:
  - PFOS: 8 ppt
  - PFOA: 20 ppt for public drinking water supplies OR 95 ppt for other surface waters
- Rule applies to entities with WPDES permits
- Effective August 1, 2022



<https://www.northparkwater.org/pfas-information/>



# Proposed CERCLA Rule

- CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act
- Rule would designate PFOA and PFOS as hazardous substances
- Entities would need to report releases that meet or exceed the reportable quantity ( $\geq 1$  pound in a 24-hour period)
- EPA is accepting comments on the rule until Nov 7
- Final rule is expected in August 2023



*Click picture for link EPA's CERCLA PFAS webpage*

# Questions?

Contact:

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Pretreatment Coordinator – NEW Water  
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920-438-1079





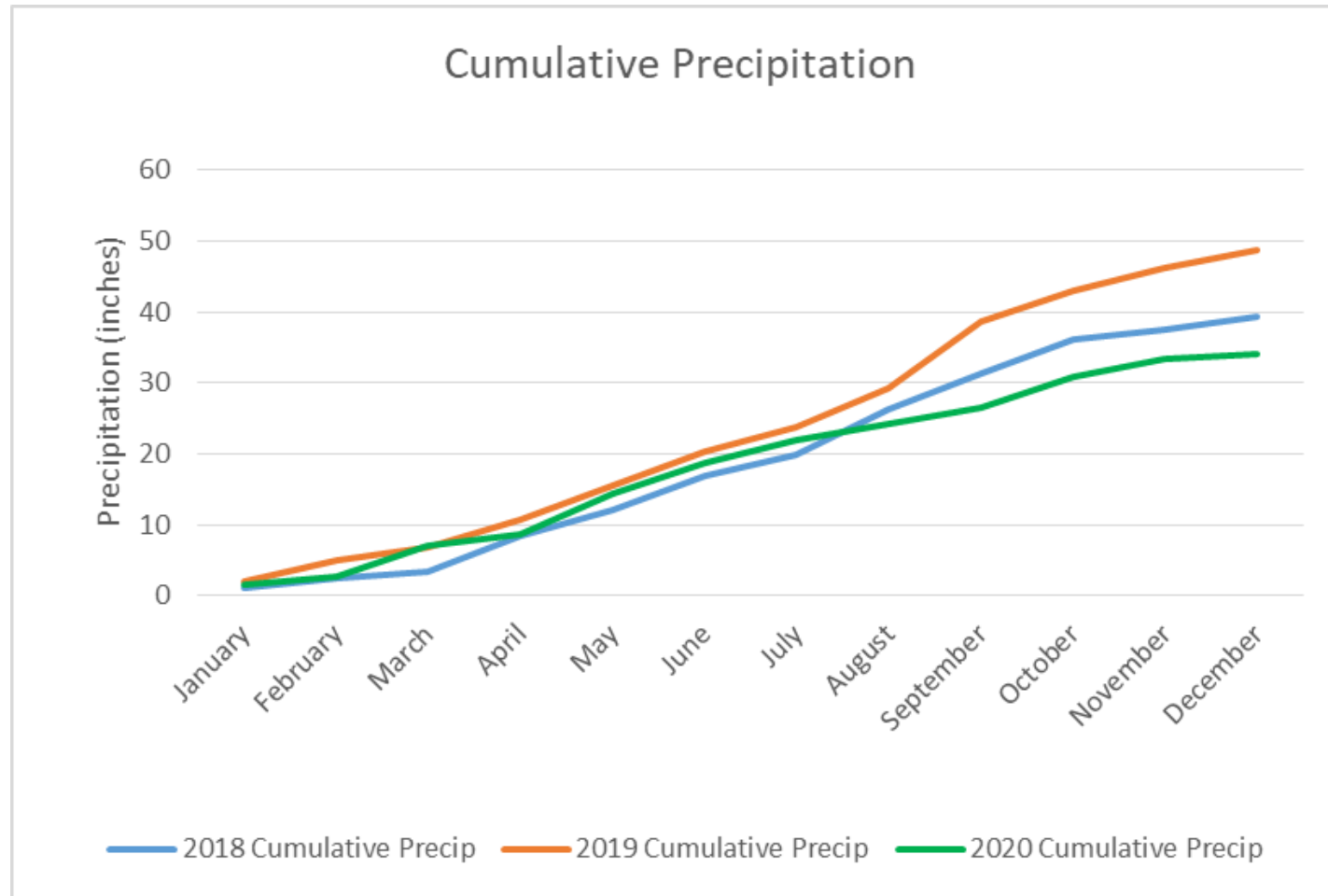


# Regional I&I Reduction Program

Draft Framework

October 20, 2022

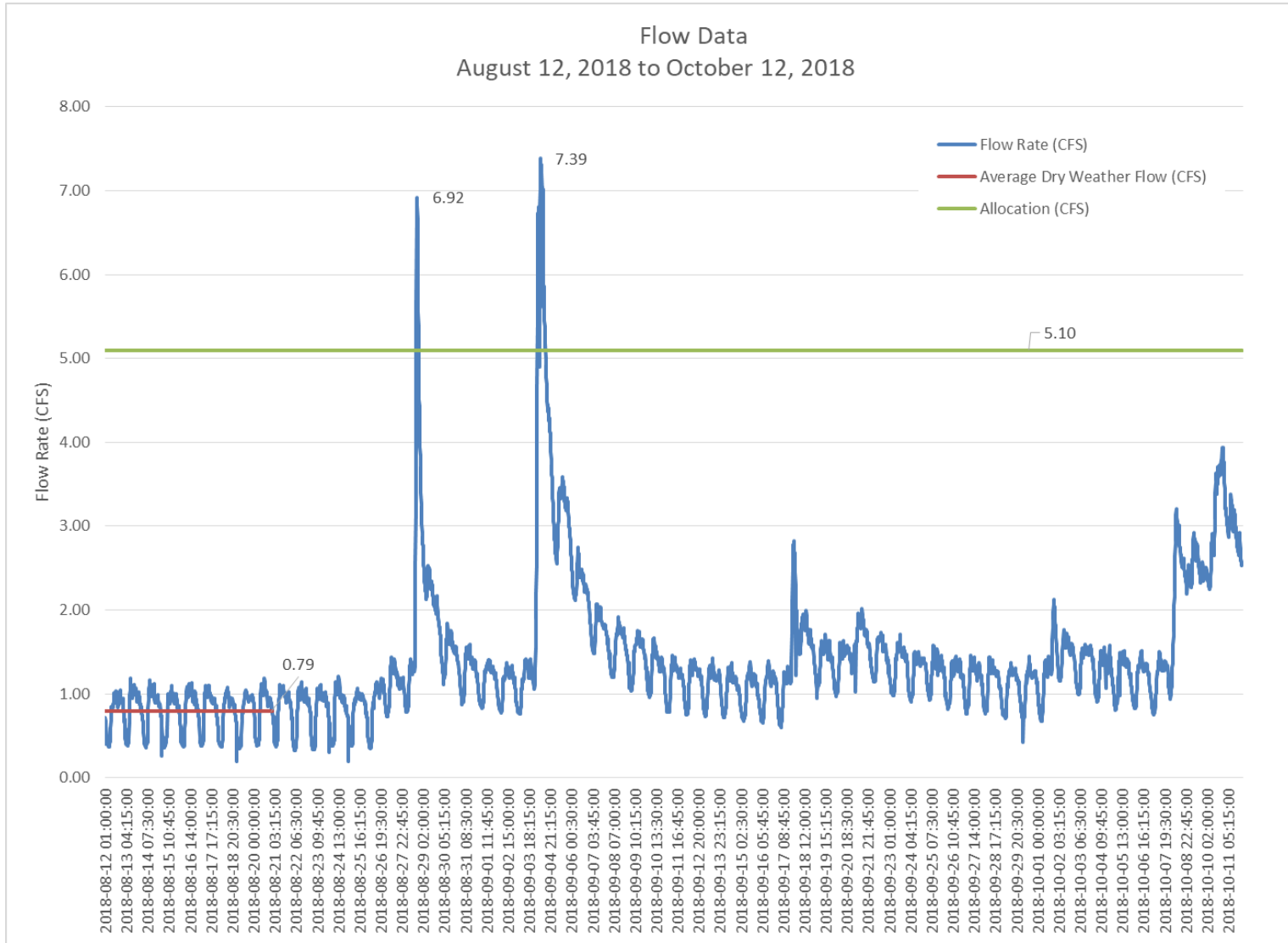
# Record Rainfall in 2018 and 2019



| Precipitation Statistics       |       |       |
|--------------------------------|-------|-------|
|                                | 2018  | 2019  |
| Total Precipitation (inches)   | 39.21 | 48.63 |
| Normal Precipitation (inches)  | 29.52 | 29.52 |
| Departure from Normal (inches) | 9.69  | 19.11 |



# High Peaking Factors In Interceptor System



Average Dry Weather Flow = 0.79 cfs  
Peak Wet Weather Flow = 7.39 cfs  
Peaking Factor = 9.35  
Customer Allocation = 5.10 cfs

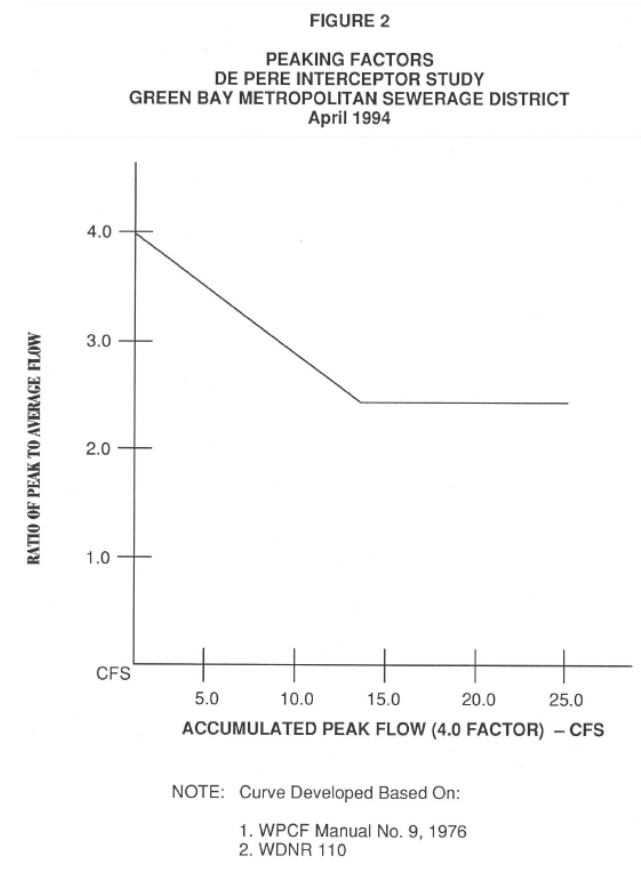
# Why is I&I a Problem at NEW Water

## Design Standards – Interceptor System

- Wisconsin Administrative Code NR 110
- NEW Water Design Standard

(c) *Design capacity.* Sewers shall be designed to carry, when running full, the peak design flows expected from domestic, commercial, industrial and other sources, and infiltration and inflow. Peak design flow shall be established using existing sewage flow or water use records, and records of infiltration and inflow. Where peak flow records are not available, the peak design flow shall be determined by applying one of the following peak flow factors to the average design flow:

1. 250% of the average design flow for interceptors, main (trunk) sewers, and sewage outfall pipes; or,
2. 400% of average design flow for submain and branch sewers.





# Urgent Capacity Needs Example: Influent Pumping

- Rated peak hourly flow rate at the treatment facilities is currently exceeded.
- Current rated capacity = 161 mgd
- December 2015: 177 mgd peak
- August 28, 2018: 166 mgd peak
- March 2019: 159 mgd peak
  
- Average flow: 41.9 mgd
- Peaking factor > 3.8

# Why is I&I a Problem at NEW Water

- Design Standards – Treatment Plants

(c) *Hydraulic loading.* The design wastewater flow shall be estimated in accordance with s. NR 110.09 (2) (j). When flow or water use records do not exist, the maximum hour design flow shall be estimated by multiplying the average design flow by the appropriate peaking factor shown in Table 2.

**Table 2**

| <b>Community Size<br/>(population)</b> | <b>Peaking Factor</b> |
|--|-----------------------|
| Under 1,000                            | 4 – 5                 |
| 1,000 – 10,000                         | 3.0 – 3.5             |
| 10,000 – 100,000                       | 2.0 – 2.5             |
| Over 100,000                           | 1.5 – 2.0             |

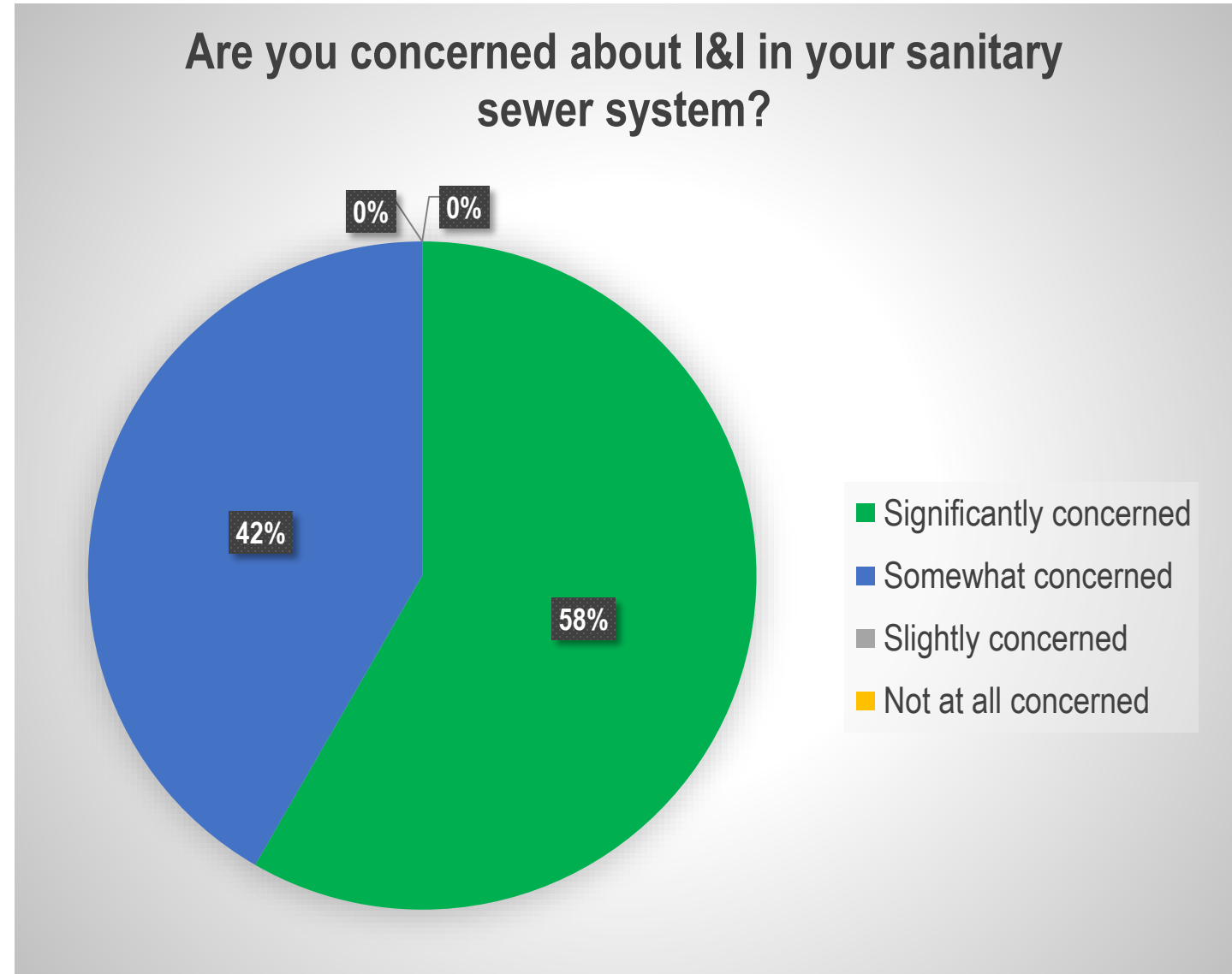
- For NEW Water Facility Plan – Using record data to determine existing flows and peaks. Future flows will utilize a 2.5 peaking factor.



# Survey Results



| Are you concerned about I&I in your sanitary sewer system? |   |        |
|--|---|--------|
| Significantly concerned                                    | 7 | 58.33% |
| Somewhat concerned   | 5 | 41.67% |
| Slightly concerned   | 0 | 0.00%  |
| Not at all concerned                                       | 0 | 0.00%  |





# Regional I&I Reduction Program Development

- Formation of I&I Stakeholder Advisory Group – September 2019
- Beginning of Brown & Caldwell Project – October 2020
- Stakeholder Advisory Group Meetings
  - September 2019
  - December 2019
  - September 2020
  - December 2020
  - June 2021
  - September 2021
  - April 2022
  - September 2022
- I&I Technical Workshop (all customers) – March 2021

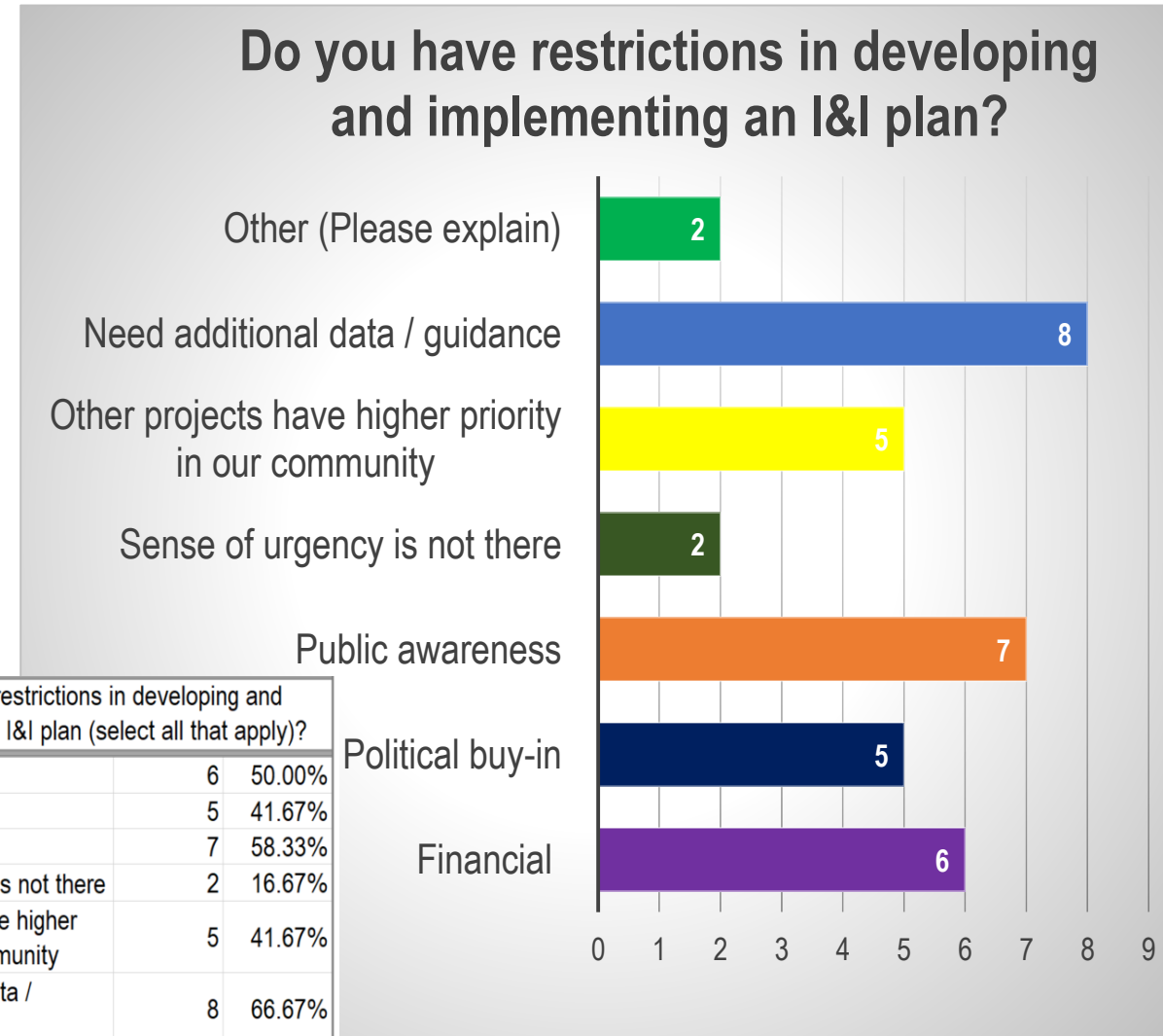
## Stakeholder Advisory Group:

City of Green Bay  
City of De Pere  
Village of Allouez  
Village of Suamico  
Village of Howard  
Scott Municipal Utility



# Elements of the Regional I&I Reduction Program

- Educational Assistance
  - Public outreach and education
  - Marketing
- Technical Assistance
  - Flow monitoring
  - Design standards and approaches
- Financial Assistance
  - Extent NEW Water will be paying for activities
- Flow Limits
  - Setting limits and identifying excess flow
- Compliance
  - Reducing flows that exceed limits

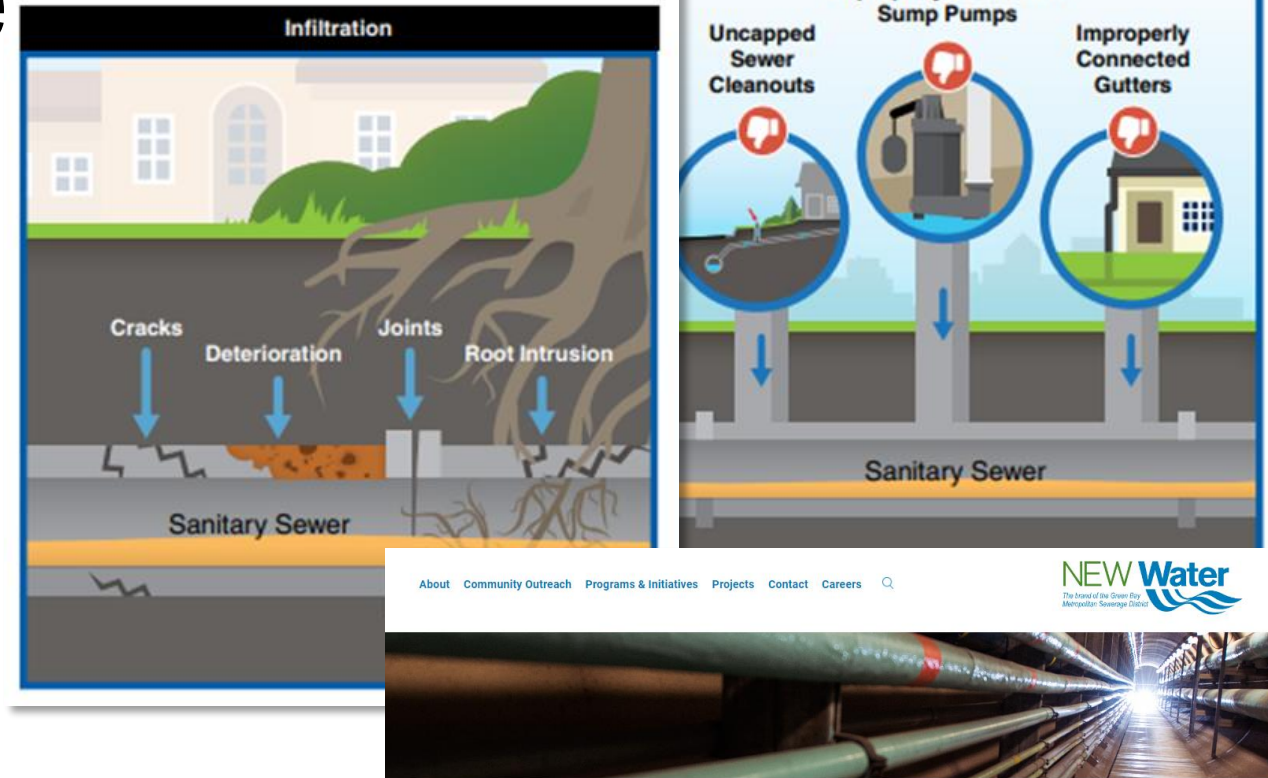


| Do you have restrictions in developing and implementing an I&I plan (select all that apply)? |   |        |
|--|---|--------|
| Financial  | 6 | 50.00% |
| Political buy-in   | 5 | 41.67% |
| Public awareness   | 7 | 58.33% |
| Sense of urgency is not there  | 2 | 16.67% |
| Other projects have higher priority in our community   | 5 | 41.67% |
| Need additional data / guidance  | 8 | 66.67% |
| Other (Please explain)   | 2 | 16.67% |

# Educational Assistance

- General template materials for municipal use
- General I&I awareness messaging via existing platforms
- Collaboration in education
  - For example, an annual meeting where customers could share I&I reduction experience
- Annual status updates
  - Overall service areas
  - Individual meetings with customers to review non-compliant areas

Figure credit: Metropolitan Council



## Impacts to Our Community

During wet weather events, NEW Water receives upwards of 3 – 5 times the normal amount of water coming through its system and into its facilities to be treated. And that's not because people are flushing their toilets more frequently. What's going on, and why should you care?



Picture above: Root intrusion into pipe indicates likely infiltration of clear water and can block sewer flow. NEW Water Television Program



Picture above: Likely illicit sump pump connection discharging inflow of clear water into sanitary sewer. NEW Water Television Program 9/5/2018

# Technical Assistance

- Convene periodic collaboration meetings
- Provide example ordinances, procedures, and design standards for reducing I&I
- Provide guidance documents and templates for Work Plan
- Possible additional technical assistance could include:
  - Flow monitoring
  - I&I investigations
  - Private property I&I reduction program development and administration



Photo credit: Brown & Caldwell

# Financial Assistance

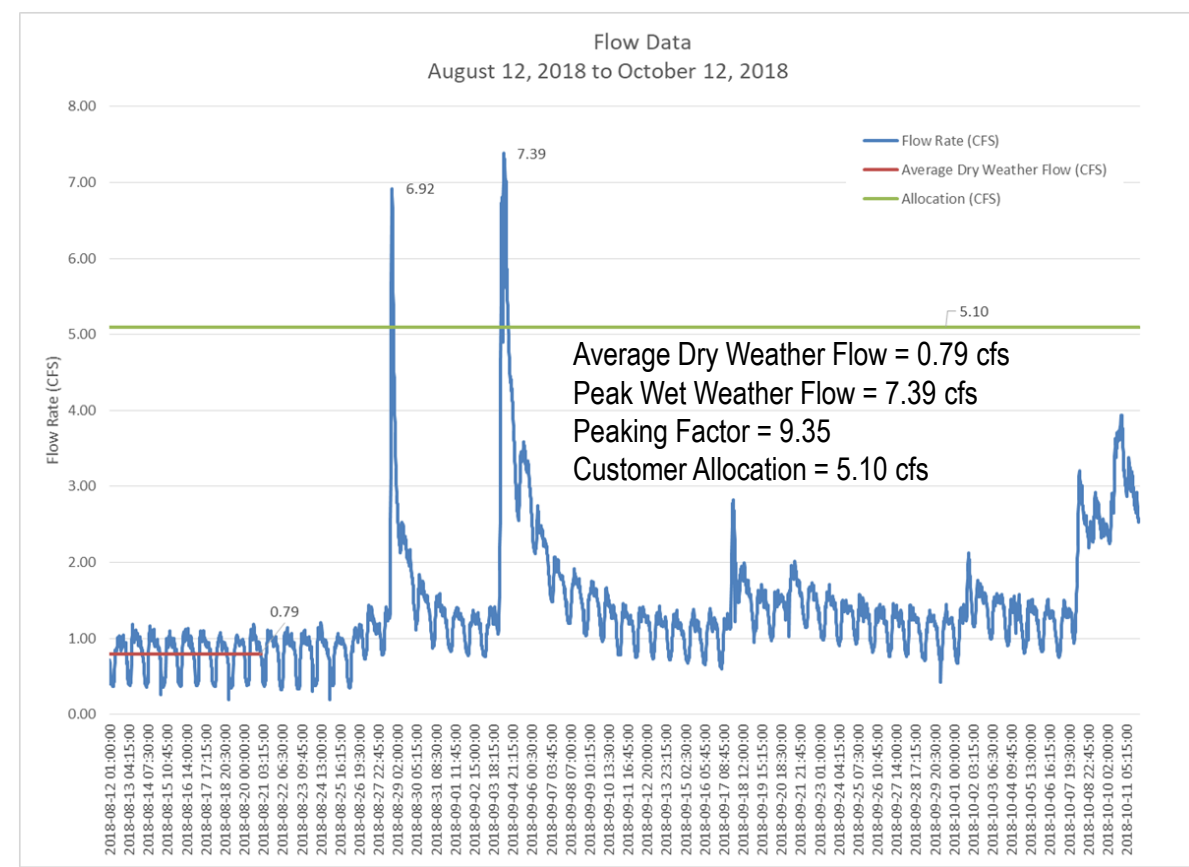
- Possible grant funding for:
  - Investigations
  - Private property I&I work
- Limit budget to funds authorized by NEW Water Commission
- Rate revenue associated with excessive wet weather flows could be a potential financial source
- Monitor federal and state funding opportunities



*Photos credit: Brown & Caldwell*

# Flow Limits

- Establish consistent I&I rate limits throughout the service area
  - Initial 6:1 Peaking Factor based on 10-year peak flow
  - Areas servicing population equivalents of 500 or more would have a lower peaking factor allowance. Between 6:1 and 4.5:1
- Use Interceptor Model to determine compliance with established peak flow limits
- The model is proposed in lieu of actual flow measurements for multiple reasons:
  - Able to characterize flows accurately for a standard event
  - Can be equitably applied across all customers
- Utilize temporary flow meters and permanent flow meters to recalibrate model on an appropriate recurring basis (example: 5 years)



# Compliance

- Three Phase Compliance Program

| Phase 1   | Phase 2   | Phase 3   |
|---|---|---|
| <ul style="list-style-type: none"><li>• Municipal Work Plan to achieve compliance within negotiated timeframe</li></ul> | <ul style="list-style-type: none"><li>• Municipal Work Plan with a 5-year compliance schedule</li></ul> | <ul style="list-style-type: none"><li>• Municipal Work Plan with a 5-year compliance schedule with fines and / or penalties for non-performance</li></ul> |

- NEW Water can escalate compliance schedule or immediately implement fines and penalties if municipal customer is not taking any actions to investigate or mitigate I&I in non-compliant areas



# Stakeholder Feedback

## Current Activities and Positive Feedback

Most municipal customers are doing some I&I mitigation work

Most are interested in standard policies, ordinances, SOPs, flow monitoring

Most are interested in NEW Water providing public information/outreach

Most want to collaborate with others on I&I mitigation techniques and lessons learned

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Many know that private property is a large contributor of I&I but is challenging to address

## Concerns

Some are worried about NEW Water rate increases to support the I&I program

Some are not interested in mandatory flow compliance

Some are concerned about the equitable use of funds





# Next Steps

- ~~I&I Stakeholder Advisory Group Meeting – September 21, 2022~~
  - ~~Review and collect feedback for the Draft Framework~~
- ~~Commission Meeting Update – September 28, 2022~~
  - ~~Review and collect feedback for the Draft Framework~~
- Municipal Partner Meeting – October 20, 2022
  - Draft Framework to all customers
- Commission Meeting Update – October 26, 2022
  - Review feedback from Municipal Partner Meeting
  - Collect feedback for the Draft Framework
- Municipal Partner Follow-Up
  - Communication with municipal customers to determine if additional, individual meetings are necessary



A vertical photograph on the left side of the slide shows a water treatment facility at sunset. The sky is a mix of orange, pink, and blue. In the foreground, there is a large, cylindrical metal tank with the words "NEW WATER" and a logo partially visible. In the background, there are several rectangular basins and buildings of the facility.

# Possible Implementation Phase Tasks

NEW Water staff is currently working on developing a scope for implementation of the Regional I&I Reduction Program. Implementation Phase tasks could include:

- Capacity and Cost-Effectiveness Evaluation
- Collection System Model Update
- Refine I&I Program
- Define Level of Service
- Identify Areas with Excessive I&I
- Regional I&I Reduction Program Guidance
- Flow Monitoring Plan
- Financial Support Plan
- Education Materials Development
- Sewer Use Ordinance Change
- Technical Guidance Development

# Questions?

Contact:

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protect our most valuable  
resource, water*

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