

## Filter Backwash Recycling Rule

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**Final: June 8, 2001**

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## Purpose of FBRR

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- Recycle practices may...
  - Increase contaminant load, including pathogens
  - Create coagulant chemistry imbalance
  - Create hydraulic surge through the treatment plant

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## Purpose of FBRR

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- Reduce the potential for *Cryptosporidium* oocysts to pass through filters into finished water by ensuring proper management of residual streams

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## Purpose of FBRR

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- Allow State evaluation of recycle practices to identify potential problems

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## FBRR Applicability

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- Surface water or GWUDI
- Conventional or direct filtration treatment
- Recycle any of three specific residual streams

FBRR 141.76(a)

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## Regulated Recycle Streams

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- Spent Filter Backwash Water
- Thickener Supernatant
- Liquids from Dewatering Processes

FBRR 141.76(a)

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## Spent Filter Backwash

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- Resulting water pushed back through the filter in the cleaning process



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## Thickener Supernatant

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- The “clear water” that exits sedimentation basins and clarifiers after particles have been allowed to settle out

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## Liquids from Dewatering Processes

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- Liquids released during dewatering processes which remove water from waste solids “sludge” in order to reduce the solids volume to be disposed

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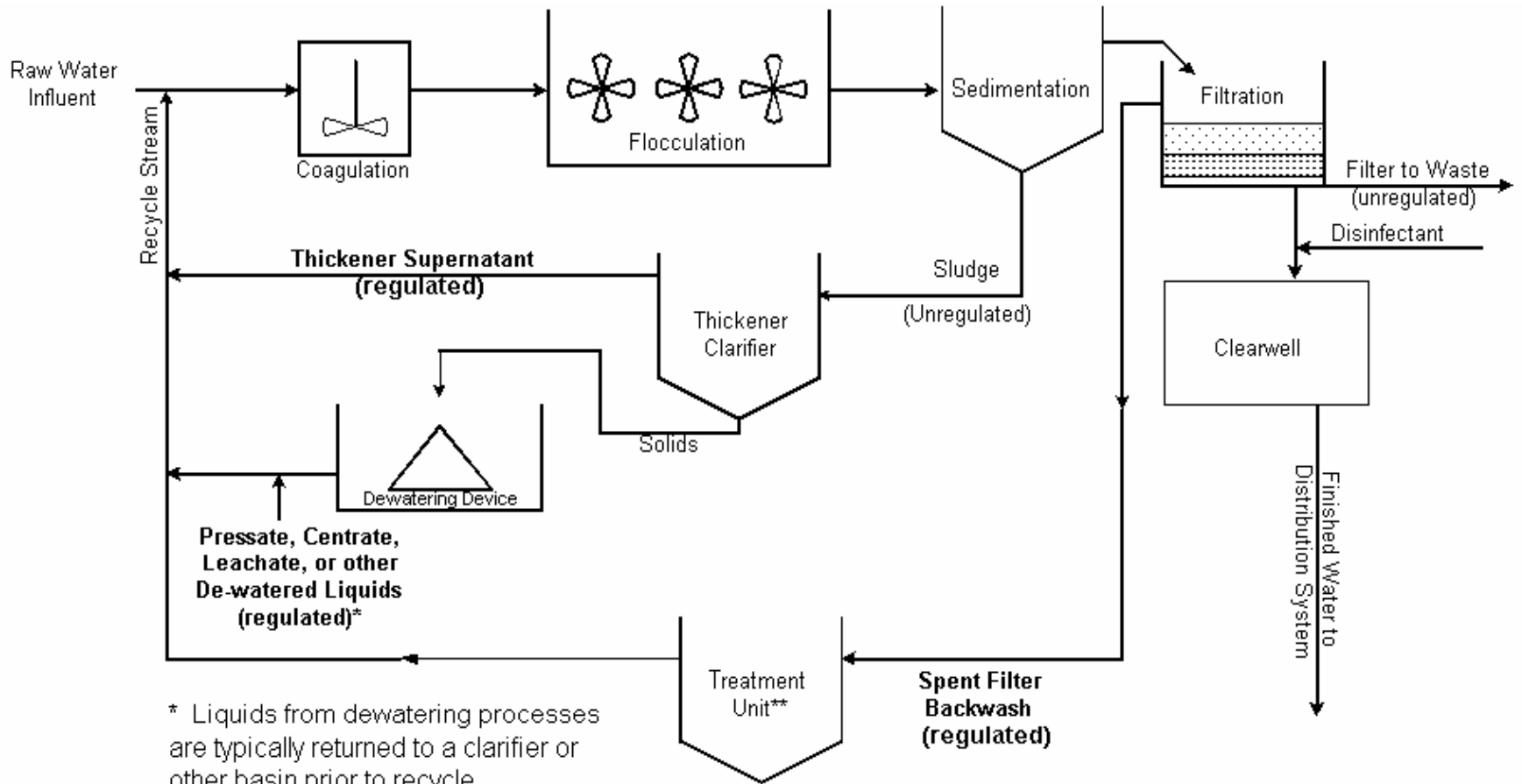
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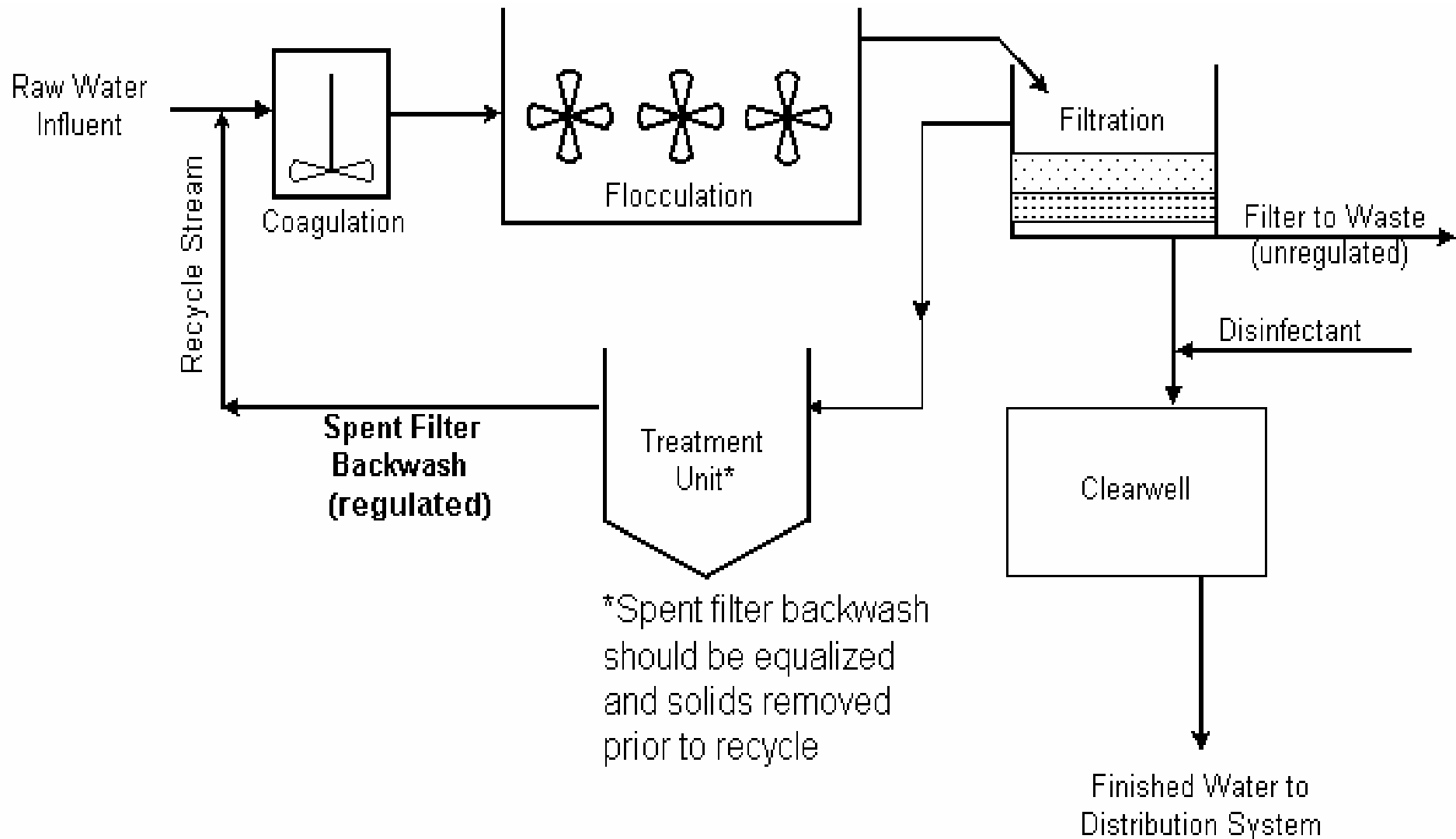
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# Conventional Treatment Plant



# Direct Filtration Plant



## Reporting Requirement

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- Written notification to the State...
  - If system recycles any of the three regulated streams
  - By December 8, 2003
- Notification must include:
  - Plant schematic
  - Plant flow & recycle flow information

FBRR 141.76(b)(1) and (2)

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## Reporting Requirement

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- Plant schematic
  - Origin of all recycle flows
  - Hydraulic conveyance used to transport them
  - Location where re-introduced back into the treatment plant

FBRR 141.76(b)(1)

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## Reporting Requirement

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- Plant flow & recycle flow info.
  - Typical recycle flow (gpm)
  - Highest observed plant flow from previous year (gpm)
  - Plant design flow (gpm)
  - State-approved operating capacity (if applicable)

FBRR 141.76(b)(2)

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## Treatment Technique Requirement

- Regulated recycle flows must return through either:
  - All processes of conventional or direct filtration system
  - Alternate location approved by the State

FBRR 141.76(c)

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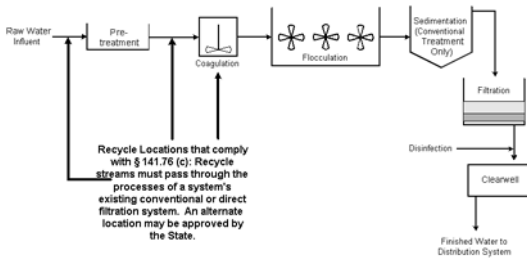
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## Recycle Return Location



Regulated Recycle Streams: Spent filter backwash water, thickener supernatant and liquids from dewatering processes.

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## Treatment Technique Requirement

- Deadline: June 8, 2004
  - If no capital improvements are required
- Deadline: June 8, 2006
  - If capital improvements are required to modify recycle location

FBRR 141.76(c)

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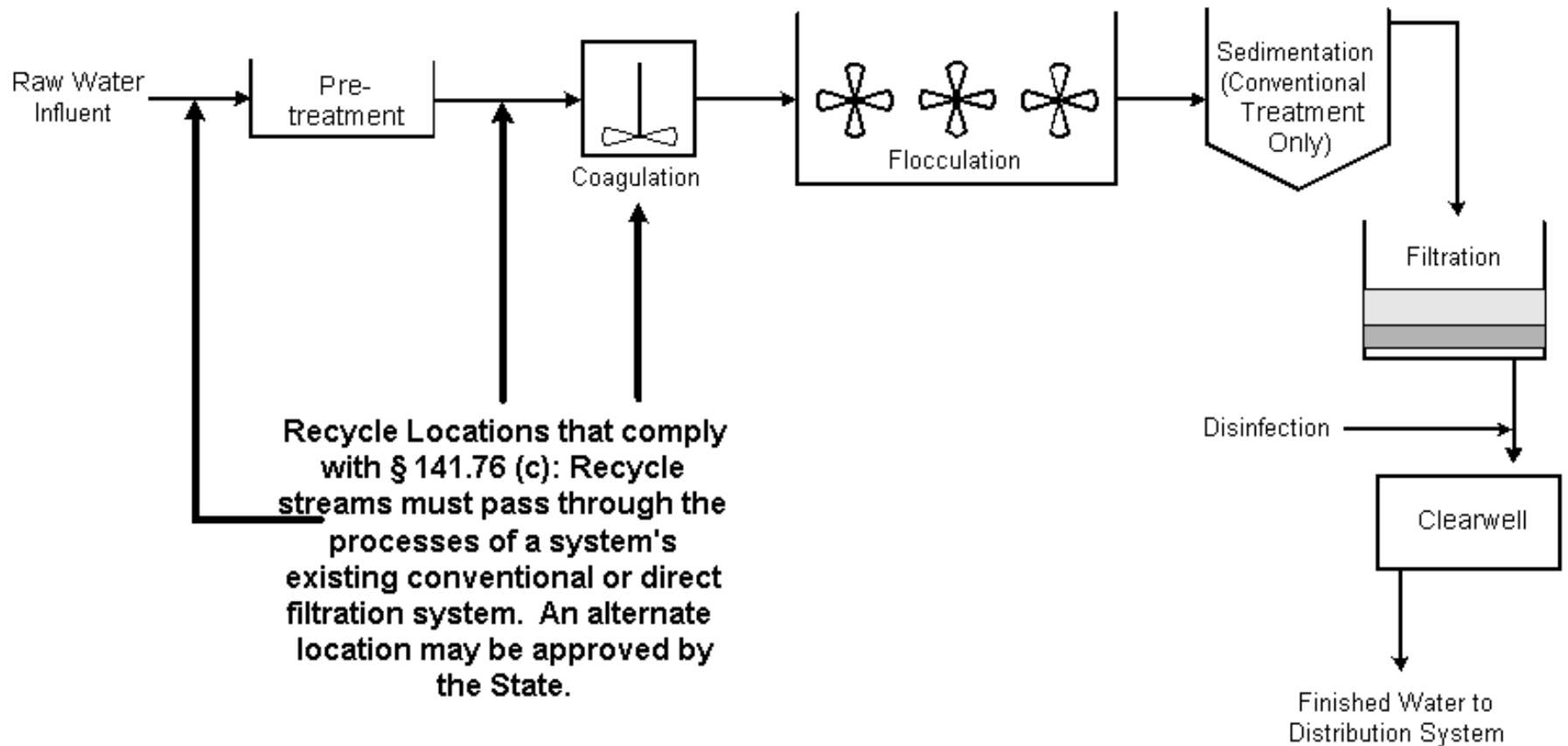
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# Recycle Return Location



Regulated Recycle Streams: Spent filter backwash water, thickener supernatant and liquids from dewatering processes.



## Recordkeeping by Systems

- On file, beginning June 8, 2004:

1. Copy of...
  - recycle notification and information submitted to State
2. List of...
  - all recycle flows and frequency of their return

FBRR 141.76(d)(1) and (2)

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## Recordkeeping by Systems

3. Average and maximum...
  - backwash flow rate through filters
  - duration of the filter backwash process (minutes)
4. Typical filter run...
  - length
  - written summary of how determined (headloss, turbidity, time, etc.)

FBRR 141.76(d)(3) and (4)

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## Recordkeeping by Systems

5. Type of treatment provided for the recycle flow

FBRR 141.76(d)(5)

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## Recordkeeping by Systems

### 6. Data on:

- physical dimensions of equalization and/or treatment units
- typical and max hydraulic loading rates
- type of treatment chemicals used/average dose/frequency of use
- frequency of solids removal from treatment units

FBRR 141.76(d)(6)

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## Purpose of Recordkeeping Requirement

- Compile recycle and plant flow data affecting treatment
- State/system assessment of recycle practices

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## Violations & Public Notification (PN) - FBRR

Violation	Violation Type	PN Requirements
Failure to recycle to an appropriate location	Treatment Technique	2
Failure to complete capital improvements by required schedule	Treatment Technique	2
Failure to notify the state of recycle practices	Monitoring/Reporting	3
Failure to collect and maintain recycle flow information by required schedule	Recordkeeping	3

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