

# Iowa Wastewater Design Standards Updates & Future Rules Revision Plan Chapters 6 & 8B

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# Overview – Chapters 6 (Settling) & 8B (Activated Sludge)

- Summarize a few of the major changes
- Question & Comment Time
- Breakout Rooms
- Reconvene & Next Steps

# Goals for the Standards Update

- Address comments received at June meeting
- Address comments from stakeholders not addressed during the EO10 update
- Updates from staff feedback
- Provide flexibility in design
- Reduce the need for waivers

# Ch. 6 – Side Water Depths

- Streamlined & updated to include table

Type of Settling Tank	Minimum Side Water Depth (ft)
Primary	10
Secondary - Activated Sludge <sup>a,b</sup>	12
Secondary - Attached Growth <sup>a</sup>	10

- a Greater side water depth are recommended for secondary settling tanks in excess of 4,000 square feet of surface area.
- b Side water depths less than 12 feet may be permitted for plants with an AWW design flow of 40,000 gallons per day or less. Settling tanks following integrated fixed-film activated sludge processes incorporating both attached growth and activated sludge in a single reactor are considered activated sludge for the purposes of the table.

# Ch. 6 – Surface Overflow Rates

- Primary Clarifiers
  - BOD removal estimates updated
- Intermediate Clarifiers
  - Higher overflow rates may be permitted if shown to have no adverse effects on subsequent treatment units
- Final Clarifiers
  - Updated section to reference “Attached Growth” processes
  - Updated Activated Sludge language
  - Flexibilities for chemical addition, baffling, or other measures

# Ch. 8B – Design Parameters

- Table 1 Updated

Process	Solids Retention Time-Days	Maximum Aeration Tank Organic Loading <sup>a</sup> lbs BOD <sub>5</sub> /1000 ft <sup>3</sup> /day	F/M Ratio <sup>a</sup> lbs BOD <sub>5</sub> /lbs MLVSS/day	MLSS mg/L
Step Aeration, Complete Mix and Conventional	3-10	50	0.2-0.5	1,000-3,000
Contact Stabilization	5-10 <sup>b</sup>	65 <sup>b</sup>	0.2-0.6 <sup>b</sup>	1,000-3,000
Extended Aeration	>15	20	0.05-0.1	3,000-5,000
Single-Stage Nitrification	>10	25	0.1-0.2	2,000-5,000

<sup>a</sup> Based on the influent organic load to the aeration tank at the maximum 30-d BOD<sub>5</sub> design load

<sup>b</sup> Total aeration capacity includes both contact and reaeration capacities

# Ch. 8B – Design Parameters

- Oxygen recovery allowance where denitrification processes meet reliability criteria
- O<sub>2</sub> Levels at 2 mg/L in aerobic zones only (field transfer “C” = 2 mg/L)
- BOD<sub>5</sub> O<sub>2</sub> requirement for extended air lowered to 1.5 lbs/lb at 30-d max. design
- BOD<sub>5</sub> O<sub>2</sub> requirement for other processes lowered to 30-d max. design averaging period

# Ch. 8B – Return Sludge Rates

- RAS Rates updated to reflect modern best practices

Type of Process	% of Design AWW Flow Maximum Lower Value	% of Design AWW Flow Minimum Upper Value
Conventional, Step Aeration, Complete Mix, or Carbon Oxidation Stage of Separate-Stage Nitrification	10	67
Contact Stabilization, Single-Stage Nitrification or Extended Aeration	33	100
Nitrification Stage of Separate-Stage Nitrification	33	133

# Ch. 8B – New Sections

- Sequencing Batch Reactor
- Biological Nutrient Removal

# Breakout Rooms

- Small group discussion
- We will reconvene to wrap up

# Going Forward - Rulemaking

- Complete chapter review & edits and then submit for rulemaking
  - Can be a lengthy process
  - Need Stakeholder buy-in for pre-clearance stage
  - Ideally – submit for preclearance May 2026
    - Potentially could have rule revision in effect by December 2026

# Going Forward

- Next Chapter for Review
  - Chapter 7: Sludge Handling
  - Kickoff meeting Summer 2026
  - Submit comments to [iwfds@dnr.iowa.gov](mailto:iwfds@dnr.iowa.gov)

# Q&A

- Feel free to submit comments related to the chapter under review ahead of time
  - [iwfds@dnr.iowa.gov](mailto:iwfds@dnr.iowa.gov)