

2.3.1.1 Permitting Framework and Scope/Permit Program Areas/ Municipal and Domestic Sources/Secondary Treatment

Applicability:

This applies to domestic wastewater treatment plants other than waste stabilization ponds (lagoons) and trickling filter treatment plants. Domestic wastewater originates primarily from the sanitary conveniences of residences, commercial buildings, factories and institutions (e.g. schools, nursing homes, hospitals, and prisons).

Content:

All domestic wastewater treatment systems must have some form of secondary treatment or equivalent to secondary treatment (see [2.3.1.1.1 Secondary Treatment Equivalent](#)). This requirement is based in federal regulations for the NPDES Program, specifically 40 CFR Part 133.

The biological treatment component of a domestic wastewater treatment system is termed secondary treatment. Secondary treatment uses microscopic organisms to reduce the organic component of domestic wastewater through metabolic activity. In a treatment facility, the secondary treatment process typically occurs in a basin in which the wastewater is mechanically aerated. Settling (clarification) of the solids (sludge) follows this stage of treatment. Handling of secondary sludge is a related process.

Secondary treatment is usually preceded by primary treatment. Primary treatment may include flow equalization, grit removal, screening, comminution (grinding), settling (clarification), and skimming or baffling. Handling of primary treatment sludge is a related process.

The United States Environmental Protection Agency (EPA) has developed secondary treatment regulations that contain minimum standards that must be met. These standards include 5-Day Biochemical Oxygen Demand (BOD₅), Total Suspended Solids (TSS), pH and a percent removal rate.

Legal References:

Missouri Clean Water Law, Chapter 644, RSMo

- [644.051.3](#) Prohibited acts--permits required, when, fee--bond required of permit holders, when--permit application procedures--rulemaking--limitation on use of permit fee moneys.
- [644.076.1](#) Unlawful acts prohibited--false statements and negligent acts prohibited--penalties--exception.

Code of State Regulations

- [10 CSR 20-6.010\(8\)\(A\) and \(B\)](#) Construction and Operating Permits - Permit Terms and Conditions
(A) Mandatory Conditions
(B) Effluent Limits, Monitoring and other Conditions
- [10 CSR 20-7.015](#) Effluent Regulations

Code of Federal Regulations

- [40 CFR 122](#) EPA Administered Programs: The [NPDES](#)
- [40 CFR 133](#) Secondary Treatment Regulation

Other Links:

[2.3.1.1.1 Secondary Treatment Equivalent](#)

[5.3.2.1 Secondary Treatment \(Effluent Limits\)](#)

[5.3.2.2 Equivalent to Secondary \(Effluent Limits\)](#)

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