

INDEX

CHAPTER 217 DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEMS

SUBCHAPTER A: ADMINISTRATIVE REQUIREMENTS

- §217.1. Applicability.
- §217.2. Definitions.
- §217.3. Purpose.
- §217.4. Variances.
- §217.5. Plans and Specifications General Requirements.
- §217.6. Submittal Requirements and Review Process.
- §217.7. Types of Plans and Specifications Approvals.
- §217.8. Municipality Reviews.
- §217.9. Texas Water Development Board Reviews.
- §217.10. Final Engineering Report.
- §217.11. Construction of an Approved Project.
- §217.12. Substantial Design Changes.
- §217.13. Final Construction Drawings and Specifications.
- §217.14. Completion Notice.
- §217.15. Inspection.
- §217.16. Wastewater Treatment Facility Operation and Maintenance Manual.
- §217.17. Collection System Records.
- §217.18. Provisions that Apply to All Sections in this Chapter.

SUBCHAPTER B: WASTEWATER TREATMENT FACILITY DESIGN REQUIREMENTS

- §217.31. Applicability.
- §217.32. Organic Loadings and Flows for New Wastewater Treatment Facilities.
- §217.33. Flow Measurement.
- §217.34. Organic Loadings and Flows for Existing Wastewater Treatment Facilities, Re-Ratings, and Alterations.
- §217.35. One Hundred-Year Flood Plain Requirements.
- §217.36. Emergency Power Requirements.
- §217.37. Disinfection System Power Reliability.
- §217.38. Buffer Zones and Odor Abatement.
- §217.39. Wastewater Treatment Facility Use of Reclaimed Water.
- §217.40. Signs with Emergency Contact Information.

SUBCHAPTER C: CONVENTIONAL COLLECTION SYSTEMS

- §217.51. Applicability.
- §217.52. Edwards Aquifer.

- §217.53. Pipe Design.
- §217.54. Criteria for Laying Pipe.
- §217.55. Manholes and Related Structures.
- §217.56. Trenchless Pipe Installation.
- §217.57. Testing Requirements for Installation of Gravity Collection System Pipes.
- §217.58. Testing Requirements for Manholes.
- §217.59. Lift Station Site Requirements.
- §217.60. Lift Station, Wet Well, and Dry Well Designs.
- §217.61. Lift Station Pumps.
- §217.62. Lift Station Pipes.
- §217.63. Emergency Provisions for Lift Stations.
- §217.64. Materials for Force Main Pipes.
- §217.65. Force Main Pipe Joints.
- §217.66. Identification of Force Main Pipes.
- §217.67. Force Main Design.
- §217.68. Force Main Testing.
- §217.69. Maintenance, Inspection, and Rehabilitation of the Collection System.
- §217.70. Reclaimed Water Facilities.
- §217.71. Storage Tanks for Reclaimed Water.

SUBCHAPTER D: ALTERNATIVE COLLECTION SYSTEMS

- §217.90. Applicability.
- §217.91. Edwards Aquifer.
- §217.92. Component Sizing.
- §217.93. General Requirements.
- §217.94. Maintenance and Inspection Program.
- §217.95. Alternative Collection System Service Agreements.
- §217.96. Small Diameter Effluent Sewers.
- §217.97. Pressure Sewers.
- §217.98. Vacuum Sewer Systems.
- §217.99. Testing Requirements.
- §217.100. Termination.

SUBCHAPTER E: PRELIMINARY TREATMENT UNITS

- §217.120. General Preliminary Treatment Requirements.
- §217.121. Coarse Screens.
- §217.122. Fine Screens.
- §217.123. Screenings and Debris Handling.
- §217.124. Grit Removal Systems.
- §217.125. Grit Chambers.
- §217.126. Grit Handling.
- §217.127. Pre-aeration Units.

- §217.128. Flow Equalization Basins.
- §217.129. Primary Clarifiers.

SUBCHAPTER F: ACTIVATED SLUDGE SYSTEMS

- §217.151. Requirements for an Aeration Basin.
- §217.152. Requirements for Clarifiers.
- §217.153. Requirements for Both Aeration Basins and Clarifiers.
- §217.154. Aeration Basin and Clarifier Sizing--Traditional Design.
- §217.155. Aeration Equipment Sizing.
- §217.156. Sequencing Batch Reactors.
- §217.157. Membrane Bioreactor Systems.
- §217.158. Solids Management.
- §217.159. Process Control.
- §217.160. Operability and Maintenance Requirements.
- §217.161. Electrical and Instrumentation Systems.
- §217.162. Air Lift Pump Design.
- §217.163. Advanced Nutrient Removal.
- §217.164. Aeration Basin and Clarifier Sizing--Volume-Flux Design Method.

SUBCHAPTER G: FIXED FILM AND FILTRATION UNITS

- §217.181. Applicability.
- §217.182. Trickling Filters--General Requirements.
- §217.183. Nitrifying Trickling Filters--Additional Requirements.
- §217.184. Dual Treatment Using Trickling Filters.
- §217.185. Rotating Biological Contactors.
- §217.186. Nitrifying Rotating Biological Contactors.
- §217.187. Dual Treatment Utilizing Rotating Biological Contactors.
- §217.188. Submerged Biological Contactor.
- §217.189. Dual Treatment Systems Using Submerged Biological Contactor.
- §217.190. Filtration.
- §217.191. Additional Requirements for Deep Bed, Intermittently Backwashed, Granular Media Filters.
- §217.192. Additional Design Requirements for Multi-Compartmented, Low Head, Automatically Backwashed Filters.
- §217.193. Cloth or Disk Filter Systems.
- §217.194. Alternative Designs for Effluent Polishing.

SUBCHAPTER H: NATURAL TREATMENT UNITS

- §217.201. Applicability.

- §217.202. Primary and Secondary Treatment Units.
- §217.203. Design Criteria for Natural Treatment Units.
- §217.204. Imhoff Tanks.
- §217.205. Facultative Lagoons.
- §217.206. Aerated Lagoons.
- §217.207. Stabilization Lagoons.
- §217.208. Evaporative Lagoons.
- §217.209. Constructed Wetlands.
- §217.210. Constructed Wetlands--Free Water Surface Design.
- §217.211. Constructed Wetlands--Subsurface Flow System General Design.
- §217.212. Overland Flow Process.
- §217.213. Integrated Facultative Lagoons.

SUBCHAPTER J: SLUDGE PROCESSING

- §217.241. General Requirements.
- §217.242. Control of Sludge and Supernatant Volumes.
- §217.243. Sludge Pipes.
- §217.244. Sludge Pumps.
- §217.245. Exclusion of Grit, Grease, and Debris from Sludge Processing Units.
- §217.246. Ventilation and Odor Control.
- §217.247. Chemical Pretreatment of Sludge.
- §217.248. Sludge Thickening.
- §217.249. Sludge Stabilization.
- §217.250. Sludge Dewatering.
- §217.251. Sludge Storage.
- §217.252. Final Use or Disposal of Sludge.

SUBCHAPTER K: CHEMICAL DISINFECTION

- §217.271. Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination System Redundancy Requirements.
- §217.272. Capacity and Sizing of Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.273. Cylinder Requirements for Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.274. Dosage Control for Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.275. Requirements for 150 Pound Cylinders used in Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.276. Requirements for One-Ton and Larger Cylinders used in Gas-Withdrawal Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.

- §217.277. Requirements for One-Ton and Larger Cylinders used in Liquid-Withdrawal Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.278. Safety Requirements for Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.279. Equipment and Material Requirements for Gaseous Chlorine Disinfection and Sulfur Dioxide Dechlorination Systems.
- §217.280. Design of Sodium Hypochlorite Disinfection and Sodium Bisulfite Dechlorination Systems.
- §217.281. Application of Chlorination and Dechlorination Chemicals.
- §217.282. Other Chemical Disinfection and Dechlorination Processes.
- §217.283. Post-Disinfection Requirements.

SUBCHAPTER L: ULTRAVIOLET LIGHT DISINFECTION

- §217.291. Ultraviolet Light Disinfection System Definitions.
- §217.292. Ultraviolet Light Disinfection Systems Effluent Limitations.
- §217.293. Ultraviolet Light Disinfection Systems Redundancy Requirements.
- §217.294. Ultraviolet Light Disinfection Systems Monitoring and Alarms.
- §217.295. Ultraviolet Light Disinfection Dosage and System Sizing.
- §217.296. Ultraviolet Light Disinfection Bioassay Test Procedure.
- §217.297. Ultraviolet Light Disinfection Reactor Design.
- §217.298. Ultraviolet Light Disinfection System Cleaning and Maintenance.
- §217.299. Ultraviolet Light Disinfection System Safety.
- §217.300. Post-Disinfection Requirements.

SUBCHAPTER M: SAFETY

- §217.321. Safety Design of a Wastewater Treatment Facility.
- §217.322. Safety and Security Audits.
- §217.323. Hazardous Operation and Maintenance.
- §217.324. Chemical Handling.
- §217.325. Railings, Ladders, Walkways, and Stairways.
- §217.326. Electrical and Fire Code Compliance.
- §217.327. Non-Potable Water.
- §217.328. Wastewater Treatment Facility Access Control.
- §217.329. Color Coding of Pipes.
- §217.330. Drinking Water Supply Connections.
- §217.331. Freeze Protection.
- §217.332. Noise Levels.
- §217.333. Confined Spaces.