

310 CMR: DEPARTMENT OF ENVIRONMENTAL PROTECTION

15.202: continued

- (4) Recirculating sand filters or equivalent alternative technology shall meet the following requirements:
- (a) effluent discharge concentrations shall meet or exceed secondary treatment standards of 30 mg/L BOD₅ and 30 mg/L TSS. The effluent pH range shall be 6.0 to 9.0.
 - (b) total nitrogen concentration in the effluent shall not exceed 25 mg/L.
 - (c) system owners shall have effluent quality monitored quarterly for systems serving a facility with a design flow of less than 2,000 gallons per day, and both influent and effluent quality monitored quarterly for systems serving a facility with a design flow of 2,000 gallons per day or greater, for BOD₅, TSS, pH and total nitrogen, unless otherwise required or approved by the Department. Unless otherwise required by the Department, the system owner shall submit all monitoring results to the local Approving Authority and the Department by January 31st of each year for monitoring conducted during the previous calendar year.
 - (d) recirculating sand filter systems shall contain all components of a standard on-site system and be capable of functioning as a conventional system. Any departures from this provision require written approval from the Department.
 - (e) the system owner shall notify the local Approving Authority of any system failure within 24 hours of detection of such failure.
 - (f) pressure distribution, in accordance with 310 CMR 15.254, is required for all systems serving a facility with a design flow of 2,000 gallons per day or greater. Pressure distribution systems shall be designed in accordance with Department guidance.
 - (g) for systems serving a facility with a design flow of 2,000 gpd or greater, the separation from high groundwater as required under 310 CMR 15.212 shall be calculated after adding the effect of groundwater mounding to the high groundwater elevation as determined pursuant to 310 CMR 15.103(3).
 - (h) by January 31st of each year, unless otherwise determined by the Department, the system must be inspected at least annually by a Massachusetts certified operator of an appropriate grade to operate the system, unless the Department has approved in writing a reduction in frequency of inspection or the facility is subject to a Department approved comprehensive local plan of on-site system inspection, the system owner shall submit a certification by the system operator to the local Approving Authority and the Department for the previous calendar year stating that the system and its components are functioning as designed and were inspected in accordance with the Department's approval.
 - (i) an operation and maintenance manual shall be prepared by the system designer or a Massachusetts Registered Professional Engineer and submitted as part of the application.

15.203: System Sewage Flow Design Criteria

- (1) Each component of an on-site subsurface sewage disposal system shall be designed to treat sanitary sewage discharged from all buildings to be served by the system using the System Sewage Flow Design flows set forth at 310 CMR 15.203(2) through (5), except as provided in 310 CMR 15.203(6). Actual water meter data shall not be substituted for the design flow criteria for the activities listed in 310 CMR 15.203(2) through (5) unless pursuant to 310 CMR 15.416. Design flow is equivalent to estimated generated flow for the proposed use plus a factor representing flow variations.

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15.203: continued

TYPE OF ESTABLISHMENT	UNIT	GALLONS PER DAY	MINIMUM ALLOWABLE GPD FOR SYSTEM DESIGN
(2) RESIDENTIAL			
Bed & Breakfast	per bedroom	110	440
Bed & Breakfast with restaurant open to public add	per seat	35	1000
Camp, resident, mess hall, washroom and toilets	per person*	35	
Camp, day, washroom and toilets	per person	10	
Camp, day, mess hall, washroom and toilets	per person	13	
Campground, showers and toilets	per site	90	
Family Dwelling, Single including, but not limited to, single family condominiums & cooperatives	per bedroom	110	330**
Family Dwelling, Multiple	per bedroom	110	***
Family Mobile Home Park	per mobile home	300	
Motel, Hotel, Boarding House	per bedroom	110	
Retirement Mobile Home Park	per site	150	
Housing for the Elderly	per two bedroom unit	150****	
Work or Construction Camp	per person	50	

* Person in the context of 310 CMR 15.203 means an individual.

** A system may be designed for flows of not less than 220 gpd, if a deed restriction essentially identical to the model Grant of Title 5 Bedroom Count Deed Restriction developed by the Department, is provided that limits the dwelling to two bed rooms as the term "bedroom" is defined in 310 CMR 15.002. A home office or home retail business whose only employees reside in the home, where no additional wastewater is generated other than toilet and hand washing waste, is not considered a change in the type of establishment and does not require the addition of flow for the purpose of designing the system.

*** The number of bedrooms in a condominium shall be as specified in the Master Deed. Establishment of bedrooms in excess of the specified number shall be considered an increase in design flow. A home office or home retail business whose only employees reside in the home, where no additional wastewater is generated other than toilet and hand washing waste, is not considered a change in the type of establishment and does not require the addition of flow for the purpose of designing the system.

**** One bedroom unit Housing for the Elderly, and units with more than two bedrooms shall be designed based on 110 gallons per day per bedroom.

(3) COMMERCIAL

Airport	per passenger	5	150
Barber Shop/Beauty Salon	per chair	100	
Bowling Alley	per alley	100	
Country Club, dining room	per seat	10	
Country Club, snack bar or lunch room	per seat	10	
Country Club, lockers and showers	per locker	20	
Doctor Office	per doctor	250	
Dentist Office	per dentist	200	

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15.203: continued

TYPE OF ESTABLISHMENT (3) COMMERCIAL (continued)	UNIT	GALLONS PER DAY	MINIMUM ALLOWABLE GPD FOR SYSTEM DESIGN
Factory, Industrial Plant, Warehouse or Dry Storage Space without cafeteria	per person	15	
Factory, Industrial Plant, Warehouse or Dry Storage Space with cafeteria	per person	20	
Gasoline Station with service bays	per island***** per bay	75 125	300
***** Plus flows for bays, if any			
Kennel/Veterinary Office	per kennel	50	
Lounge, Tavern	per seat	20	
Marina	per slip	10	500
Movie Theater	per seat	5	
Non-single family/ automatic clothes washer	per washing machine	400	
Office building	per 1000 sq.ft.	75	200
Retail Store (except supermarkets)	per 1000 sq.ft.	50	200
Restaurant	per seat	35	1000
Restaurant, thruway service area	per seat	150	1000
Restaurant, Fast Food	per seat	20	1000
Restaurant, kitchen flow [for sizing of grease trap only]	per seat	15	
Service Station [no gas]	per bay	150	450
Skating Rink	per seat	5	3000
Supermarkets	per 1000 sq.ft.	97	
Swimming Pool	per person	10	
Tennis Club	per court	250	
Theater, Auditorium	per seat	3	
Trailer, dump station	per trailer	75	
(4) INSTITUTIONAL			
Place of worship without kitchen	per seat	3	
with kitchen	per seat	6	
Correctional Facility	per bed	200	
Function Hall	per seat	15	
Gymnasium	per participant	25	
Gymnasium	per spectator	3	
Hospital	per bed	200	
Nursing Home/Rest Home	per bed	150	
Public Park, toilet waste only	per person	5	

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15.203: continued

TYPE OF ESTABLISHMENT	UNIT	GALLONS PER DAY	MINIMUM ALLOWABLE GPD FOR SYSTEM DESIGN
(4) INSTITUTIONAL (continued)			
Public Park, bathhouse, showers and flush toilets	per person	10	
Day Care Facility	per person	10	
(5) SCHOOLS*****			
Elementary School, without cafeteria, gymnasium or showers	per person	5	
Elementary School, with cafeteria but no gymnasium with showers	per person	8	
Elementary School, with cafeteria, gymnasium and showers	per person	10	
Secondary/Middle School, without cafeteria, gymnasium or showers	per person	10	
Secondary/Middle School, with cafeteria but no gymnasium or showers	per person	15	
Secondary/Middle School, with cafeteria, gymnasium and showers	per person	20	
Boarding Schools, Colleges	per person	65	

***** All schools to be served by an alternative technology approved pursuant to 310 CMR 15.280 through 15.288 shall have an equalization basin as part of the system design and have it installed prior to the treatment device.

(6) Facilities other than those listed in 310 CMR 15.203(2) through (5), and nonresidential facilities with unique design features that result in significantly different design flows than those listed above may apply to the Department for a determination of design flow using actual meter readings of established flows from existing or similar installations without the need for a variance pursuant to 310 CMR 15.410 or 15.416. Prior to making a determination the Department will consult with the local Approving Authority. For state and federal facilities, the Department may also establish system design flows other than those listed above using actual meter readings of established flows from existing or similar installations. Any design flow established by the Department pursuant to 310 CMR 15.203(6), shall be based on 200% of average water meter readings in order to assimilate maximum daily flows or on other methods determined to be appropriate by the Department.

(7) In schools, flows generated from sinks or other drains receiving wastes from science laboratories, graphics arts classrooms, or vocational school activities, including, but not limited to, automotive repair painting, or metal fabrication are classified industrial wastes and shall be directed pursuant to an appropriate permit, to a sewer, if a sewer connection is feasible and, if not, then to an industrial waste holding tank in accordance with 314 CMR 18.000: *Industrial Wastewater Holding Tank and Container Construction, Operation, and Record Keeping Requirements* or an approved hazardous waste collection receptacle.