



Boonsboro Municipal Utilities Commission

Equivalent Dwelling Unit (EDU)

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BOONSBORO MUNICIPAL UTILITIES COMMISSION

Equivalent Dwelling Unit (EDU)

- THE DEFINITION OF EQUIVALENT DWELLING UNIT, AS DEFINED IN THE LAW, MEANS A MEASURE OF WASTEWATER EFFLUENT WHERE ONE UNIT IS EQUIVALENT TO 250 GALLONS OF WASTEWATER EFFLUENT DISCHARGED PER DAY.
- MDE TITLE 26; SUBTITLE 03; CHAPTER 13.02K
 - “EQUIVALENT DWELLING UNIT” MEANS A MEASURE OF WASTEWATER GENERATED WHERE ONE UNIT IS SUCH THAT:
 - (1) IF A LOCAL GOVERNMENT OR BILLING AUTHORITY FOR A WASTEWATER FACILITY HAS ESTABLISHED A DEFINITION FOR “EQUIVALENT DWELLING UNIT” ON OR BEFORE JANUARY 1, 2004, THE 1 DRAFT AVERAGE DAILY FLOW OF WASTEWATER GENERATED THAT THE LOCAL GOVERNMENT OR BILLING AUTHORITY HAS ESTABLISHED TO BE EQUIVALENT TO THE AVERAGE DAILY FLOW OF WASTEWATER GENERATED BY A RESIDENTIAL DWELLING, WHICH MAY NOT EXCEED 250 GALLONS; OR
 - (2) IF A LOCAL GOVERNMENT OR BILLING AUTHORITY HAS NOT ESTABLISHED A DEFINITION FOR “EQUIVALENT DWELLING UNIT” ON OR BEFORE JANUARY 1, 2004, OR IF A LOCAL GOVERNMENT OR BILLING AUTHORITY HAS ESTABLISHED A DEFINITION THAT EXCEEDS 250 GALLONS OF WASTEWATER GENERATED PER DAY, AN AVERAGE DAILY FLOW OF 250 GALLONS OF WASTEWATER GENERATED.
 - (3) A BUSINESS ESTABLISHMENT SHALL PAY FOR A MINIMUM OF ONE EQUIVALENT DWELLING UNIT IF ITS AVERAGE DAILY FLOW IS LESS THAN 250 GALLONS.



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CAPACITY

- Sewer Treatment Capacity
- Water Production Capacity
- Water Treatment Capacity
- System Hydraulics

DEMAND

- Existing Use
- Existing Lots of Legal Record
- Future Demand
 - **EDU's ARE THE TOOL TO MEASURE YOUR FUTURE DEMAND**



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- **EDU's can be calculated using a number of different methods:**
 - Gross Square Footage
 - Population
 - Household Size
 - Number of Services (Customers)
 - Meter Size
 - Plumbing Fixture Unit Count



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The most accurate method to calculate water demand is using a Plumbing Fixture Unit Count or Fixture Unit Count for short.

Fixture type	WSFU*	Number of fixtures			Total Units
Bar Sink	1.0				0.0
Bathtub or combo bath/shower**	4.0				0.0
Dishwasher	1.5				0.0
Drinking Fountain	1.0				0.0
Lavatory Sink	1.0				0.0
Hose Bibb (first)	2.5				0.0
Hose Bibb (each additional)	1.0				0.0
Kitchen Sink	1.5				0.0
Laundry Sink	1.5				0.0
Service Sink	1.5				0.0
Shower, per head **	2.0				0.0
Toilet (water closet)	2.5				0.0
Urinal	1.0				0.0
Washer, Clothes	4.0				0.0
Lawn Sprinkler, each head	1.0				0.0
Bidet	1.0				0.0
Mobile home, each	12.0				0.0

Notes:
 *Water Supply Fixture Unit per UPC

** Combo denotes that there is a mechanism to switch between shower head and bath faucet, allowing only one to be operated at any time. Any unit counted as a "Bathtub or combo bath/shower" can not also be added to "Shower, per head", unless both are able to be operated simultaneously.

	Maximum Demand	TOTAL FIXTURE UNITS		0.0
Water Meter Size	GPM		Fixture Count	
5/8"	20		31	
3/4"	30		54	
1"	50		127	
1-1/2"	200		900	
2"	250		1400	
3"	500		3700	
4"	1000		N/A	
6"	2000		N/A	
10"	3400		N/A	

Based on Sensus SR11 meter complying with ANSI/AWWA C700 and OMNI T2 meter complying with AWWA C701 class II



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The next most accurate method for determining water demand is by using meter size.

Meter Size (in.)	Equivalent Meter and Service Ratio
5/8 & 3/4	1
1	1.4
1 1/2	1.8
2	2.9
3	11
4	14
6	21
8	29

***This table established by:** *American Water Works Association
Manual of Water Supply Practices
Principles of Water Rates, Fees and Charges
AWWA M1
Fifth Edition*



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What method should the BMUC use to calculate water demand for future development?