

Draft Meeting Highlights
Maryland Residential Graywater Advisory Committee
September 18, 2019 1:00 pm - 3:00 pm
MDE 1800 Washington Blvd. Baltimore, MD 21230
Terra Conference Room (ground floor)

Advisory Committee Members in Attendance

Dr. Tien (MDE)
Naomi Howell (MDE)
Saeid Kasrei (MDE)
Barry Glotfelty (Frederick County, Environmental Health Director)
Claire Welty (UMBC)
Dave Duree (Advanced Systems)
Jenny Willoughby (MML, Frederick City Sustainability Manager)
Zorah Movhed (Chesapeake Water Environment Association)
Ed Singer (Maryland Association of County Health Officers)
Jeff Glass (City of Westminster, Dir. DPW)
Tom Buckley (WSSC)
Matt Cumers (Calvert County, Environmental Health Director)
Evelyn Hoban (Prince George's County, Environmental Health Director)
Massoud Negahban-Azar (UMD, CONSERVE)
Joe Radtka (State Plumbing Board)
Mike Moulds (MACO, Dir. Kent County DPW)
Gary Antonides (Chesapeake Environmental Protection Association)

Other Attendees

Mike Harmer (WSSC)
Ellen Ferktic (Chesapeake Water Environment Association, MES)
Suzanne Dorsey (MDE)
Heather Barthel (MDE)
Ed Stone (MDE)
Jim George (MDE)

1. MDE Assistant Secretary Suzanne Dorsey welcomed the participants to the first meeting of the Maryland's Residential Graywater Advisory Committee.
2. Following introductions Jim George (MDE) noted that Senator Justin Ready, who introduced the graywater legislation in 2018 ([SB 496](#)), was unable to attend. The Senator's office sent an email saying, "He wants to thank everyone for moving forward on this important topic." The email stated further, "For areas like his district where water is expensive, and for benefits to our environment, this is an area where we can really make a difference."
3. Overview of [Graywater Law](#): In place of Senator Ready, Jim George briefly led a review of the residential graywater law ([SB 496](#)) with assistance from MDE colleagues. The overview outlined

graywater sources, noting laundry water was stricken from the law due to concern about soiled diapers, outlined uses including landscape irrigation, lawn watering, composting and flushing toilets and urinals. The law notes a number of precautions and that graywater is used in accordance with plumbing codes.

- a. Ed Singer asked if we can look at other sources than what is identified in the law, e.g., the law does not include laundry water. Jim George mentioned condensate as a possible source. Matt Rowe (MDE) said we can't contravene the law, but the Advisory Committee can make recommendations for future consideration. May want OAG opinion on this.
 - b. David Duree suggested that subsurface irrigation may be the preferred approach, as a public health precaution. This concept was also included in Jim George's "Graywater Background" presentation.
 - c. Tien (MDE) said if we want to consider laundry water, it has high TSS, and could clog drip irrigation systems. Another person said graywater systems typically have filters, which are designed to prevent that (another point made in the "Graywater Background" presentation).
 - d. The Law defines graywater as "untreated water" from shower, bathtub or lavatory sink. A question was raised about what this might mean if we treat the graywater, that is, does it still meet the statutory definition of graywater?
4. Graywater Background Presentation (Jim George, MDE)
- a. Manage public health risks: Prevent human contact, avoid ponding, keep on property, not irrigating food crops and proper plumbing protocols.
 - b. Manage public health risks: Use proper plumbing, e.g., backflow prevention and protection from siphoning.
 - c. Manage environmental damage risk: Need proper soils to prevent ponding.
 - d. Manage environmental damage risk: Protect soil health, groundwater and surface water. Setbacks from wells and surface water.
 - e. Storage – Some suggest avoiding storage altogether, e.g., simple laundry to lawn systems. No storage for longer than 24-hours without sufficient treatment.
 - f. Mentioned MDE Water Reuse Initiative and Website. <http://bit.ly/H2OreuseMDE>
- Presentation:
<https://mde.maryland.gov/programs/Water/waterconservation/Documents/Graywater-AC-Quality-Irrigation.pdf>
5. Plumbing Code Presentation: (Joe Radtka, Maryland Plumbing Board). About ½ counties in MD use the International Plumbing Code (IPC).
- a. Maryland is now in the process of adopting the International Plumbing Code. In the past Maryland has used the National code; however, few states use it now.
 - b. Walked through the 2018 IPC – Chapter 13: Nonpotable Water Systems.
 - i. Material, design, construction.
 - ii. No more than 4 PPM chlorine or chloramines.

- iii. Filtration – 100 micron filter.
- iv. Need signage for nonpotable
- v. So graywater regulations need to conform with plumbing code.
- vi. Have to meet minimum plumbing code requirements.
- vii. When flushing could aerosolize, so there is an exposure.
- viii. Zorah made the point that there is a big difference between bringing water in the house or using outside.
- ix. Any potable water connection to greywater has to have backflow prevention.
- x. Permitting goes back to the jurisdiction.
- xi. Have to screen vents.
- xii. Systems have to be protected from freezing and from the sun.
- xiii. Tank has to be non-porous, non-corrodable.
- xiv. Tank has to have ballast, so if you are burying it it does not float up. Also surrounded by pea gravel so you don't damage it.
- xv. Overflow and Drain valve diameters. Apparently can overflow into a "splash box" and not necessarily a sewer. Does not recommend overflow to septic. (??)
- xvi. Tank needs to be abandoned if ceases to function, and sealed, locked, etc. Also have to replace system with a potable water system.
- xvii. A lot of tank access safety requirements.
- xviii. IS THERE ANYTHING ABOUT THE DRAINAGE SYSTEM?
- xix. ASTM 2635
- xx. Prohibited sources: waste or fecal matter, also RO reject water, waste discharge from hoods or scrubbers, others I didn't catch. No mention of condensate.
- xxi. Question about plumbing codes and amending. Would have to address with the plumbing board. Three year code cycle.
- xxii. A question was raised about whether RO and water softener backwash that is currently directed to septic systems could be directed to graywater system. According to plumbing code, the answer is no (see prohibited sources above).
- xxiii. Filtering is set for intended end use. Untreated graywater may not be stored for more than 24-hours.
- xxiv. NSF 350 for reuse sets treatment standards for fixture flushing (toilets, urinals)
- xxv. Discussion about non-absorbing materials for tanks; however also said MOST UNDERGROUND TANKS ARE CONCRETE TO PREVENT FLOTATION BUT THAT IS POROUS. There seemed to be a contradiction here.
- xxvi. Someone suggested that a flow chart of the plumbing code requirements would be helpful.
- xxvii. Water quality tested at point of use to requirements of jurisdiction.
- xxviii. Have to submit for larger systems a maintenance plan.
- xxix. Joe mentioned states in which a home is being remodeled by over 50% graywater systems could be required (this is more of a situation in arid western states).
- xxx. Jurisdictions determine enforcement and compliance.
- xxxi. There is a green plumbing code

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Presentation:

<https://mde.maryland.gov/programs/Water/waterconservation/Documents/NonPotable-Grey-Water-PowerPoint-9-16-19.pdf>

6. Closing: The group was informed that the next meeting is scheduled for October 16, 1-3pm at MDE in an upstairs conference room. Escorts will be provided to usher people up to the room.

We will discuss possible Committee governance issues at the next meeting. Draft meeting highlights will be circulated for review and comment. A draft regulation will be circulated prior to the next meeting. For Committee support information, attendees were directed to MDE's Graywater webpage:

<https://mde.maryland.gov/programs/Water/waterconservation/Pages/graywater.aspx>