

# Greywater Recycling Challenge Rules

## Objective

The Greywater Recycling Challenge is designed to encourage municipalities to revise their laws regarding the use and disposal of a home's greywater and spur the installation of greywater recycling systems in new and existing homes.

To claim the prize, the participating municipality must demonstrate that the required number of homes according to the Official Tabulation have had greywater recycling systems installed within 18 months of submitting a claim. The number of homes that must install greywater recycling systems is dependant on the size of the municipality and its rate of growth according to the 2000 U.S. Census.

The Official Tabulation has been calculated using either formula #1 or #2 below depending on whichever yields the lowest value for X when rounded to the nearest whole number:

$$\#1) X = 0.115789473684211 * Y + 19.7368421052632$$

$$\#2) X = Z * 0.0147$$

X = The number of homes required to be serviced by greywater recycling systems installed in the previous 18 months.

Y = The average number of new homes built in the municipality per year during the 1990s according to the 2000 U.S. Census as calculated by dividing the total number new homes built during the decade by 10.

Z = The total number of homes in the municipality according to the 2000 U.S. Census.

For example, the town of Jefferson, WI grew by 500 homes in the 1990s, or an average of 50 homes per year. According to formula #1, greywater recycling systems would have to be installed in a minimum of 15 homes in the municipality within 18 months to claim the prize. Similarly, Lee's Summit, MO, which added nearly a 1000 new homes each year, would need to have systems installed capable of recycling the greywater of at least 125 homes.

On the other hand, despite adding a average of 112 homes per year during the 1990s, in Celebration, FL, greywater recycling systems would need to installed in a minimum of 17 homes according to formula #2 since there were 1136 total homes in the municipality according to the 2000 U.S. Census,

To participate, a minimum of 15 homes in the municipality must incorporate greywater recycling systems in the previous 18 months. Up to three adjacent municipalities with an Official Tabulation each less than 15 may jointly participate provided the total number of

greywater systems installed in the previous 18 months is equal to or greater than the combined Official Tabulation of the participating municipalities.

Municipalities whose boundaries have been redrawn since the 2000 U.S. Census resulting in a 1% increase or decrease in homes must calculate the number of homes required to be serviced by a greywater recycling system installed in the previous 18 months using the formula provided in the requirements.

A home's greywater recycling system must be designed to recycle a minimum of 30% of the potable water per home used in the course of one year. A single greywater recycling system may service more than one home (as in the case with an apartment building or townhouse) so long as it is designed to recycle 30% of the building's potable water.

The first municipality that can demonstrate that greywater recycling systems servicing the required number of homes have been installed in the 18 months prior to submitting a claim shall receive the prize.

### Requirements

1. Definitions of terms:
  - A. MUNICIPALITY is any city, town, village, borough or census designated place (CDP) as defined by the U.S. Census Bureau
  - B. HOUSING UNIT is defined as any single family residence whether free-standing or attached to other Housing Units.
  - C. ACCEPTABLE GREYWATER RECYCLING SYSTEM is defined as:
    - I. A system designed to reuse water that originates from residential clothes washers, bathtubs, showers, and sinks other than kitchen sinks, but does not include wastewater from kitchen sinks, dishwashers and toilets.
    - II. Each individual Housing Unit's Acceptable Greywater Recycling System must be capable of reusing a minimum of 30% of a household's freshwater.
  - D. REQUIRED NUMBER OF ACCEPTABLE GREYWATER RECYCLING SYSTEMS is defined as the minimum number of Housing Units that have had Acceptable Greywater Systems installed.
    - I. Required Number of Acceptable Greywater Recycling Systems may include:
      - a. Acceptable Greywater Recycling System incorporated into new Housing Unit construction.
      - b. Acceptable Greywater Recycling System retrofitted into previous constructed Housing Unit.
2. The Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality is available at <http://www.bigcarrot.com/OTRNAGRSM.pdf>
3. Participation in this challenge is limited to Municipalities in the United States of America.

4. The Required Number of Acceptable Greywater Recycling Systems must be incorporated into Housing Units during a consecutive 18 month period.
  - A. The Required Number of Acceptable Greywater Recycling System may not include Acceptable Greywater Systems installed prior to January 1, 2008.
5. The Required Number of Acceptable Greywater Recycling Systems that must be installed into Housing Units in each Municipality shall be dictated by the Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality.
  - A. In the event that a Municipality's boundaries have materially changed since the 2000 U.S. Census, the Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality is inoperable, and Municipality must use the following formula:
    - I. Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality is equal to the total number of housing units in the municipality at the time of the submission of the claim multiplied by 0.0147.
    - II. A Municipality's boundaries will be considered to have materially changed if, as a result of the change, the number of housing units increased or decreased by more than 1%.
      - a. It is the responsibility of the participating Municipality to provide all necessary documentation to verify the total number of housing units in the municipality at the time of the submission of the claim.
  - B. Municipalities not listed on the Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality are excluded from participation.
  - C. The Required Number of Acceptable Greywater Recycling System shall be incorporated into no fewer than 15 Housing Units.
    - I. As many as three (3) adjacent municipalities may jointly participate provided:
      - a. The cumulative Required Number of Acceptable Greywater Recycling Systems incorporated in Housing Units of the participating municipalities exceeds fifteen (15).
      - b. Required Number of Acceptable Greywater Recycling Systems incorporated in Housing Units of the participating municipalities is equal to or greater than the cumulative Required Number of Acceptable Greywater Recycling Systems according to the Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality.
      - c. No individual municipality has a Required Number of Acceptable Greywater Recycling Systems according to the Official Tabulation of the Required Number of Acceptable Greywater Recycling Systems by Municipality exceeding fifteen (15) Housing Units.

6. Claims must be submitted by an authorized representative of the participating municipality and must include all of the following:
  - A. Affidavit from an individual authorized to represent the municipality certifying that the Required Number of Applicable Housing Units with Acceptable Greywater Recycling Systems have been constructed in the previous 18 consecutive months.
    - I. Claims by multiple municipalities participating under section 5(c)(A) must designate a single municipality to receive the prize payment.
  - B. Suitable documentation, digitally reproduced and supplied, to verify the proof of claim.
    - I. Documentation must include the street address of all Housing Units that make up the Required Number of Acceptable Greywater Recycling Systems.
    - II. Documentation may include but is not limited to:
      - a. Sales receipts
      - b. Invoices
      - c. Building plans
      - d. Photographs
      - e. Tax Receipts
  - C. Municipality agrees, with 48 hours notice, to make available any units designated as constituting fulfillment of the Required Number of Acceptable Greywater Recycling Systems to a representative as selected by the prize administrator to perform compliance verification.
    - I. A representative as selected by the prize administrator may perform compliance verification checks on no more than three separate occasions.