

Builder's Gray Water Action Summary

An excerpt from the [Builder's Grey Water Guide](#) (book)

Do's

- For all new residential construction, plumb gray water and toilet lines separately, joining them downstream from the future gray water diversion point.

The one thing you can do in all new construction and remodeling; this is *legal everywhere under existing building codes* and the word "gray water" need not ever be mentioned.

Gray water reuse will likely become much more widespread (or even mandated) over the life of structures you are building today. Entombing combined gray water and blackwater lines under a cement slab, particularly, is foreclosing on the possibility of using a valuable resource.

Some pointers

Vent the toilets separately or tie the black and gray water vents together 12" below the spill point of the highest fixture.

Don't squander fall Keep the gray water lines *heights* possible to maximize future options for distributing it by gravity. This cannot be stressed enough. I've had to re-plumb entire houses just to raise the plumbing a few inches.

If you can, anticipate the design of the future gray water system so you know it will all hook up nicely.

- For legal systems with small gray water flows and irrigated area downhill from gray water source, try to spec Branched Drain to Mulch Basins.

This is a very simple system which should be permissible under any reasonable gray water law. See page 9 and the [The New Create an Oasis with Grey Water](#) (book).

- For new construction and remodeling with high gray water generation and irrigation need in areas where gray water is legal, the budget is low, try the Earthstar or ReWater systems.

See page 6, and check our [Links](#) page for possible new suppliers.

- For new construction and remodeling with high gray water generation and irrigation need, or the sites with failing septic systems or difficult conditions, and the budget is high, use the Orenco system.

This system is capable of handling very large flows and can handle blackwater as well as gray water (see page 15).

- Make sure unpermitted retrofit systems will work safely and satisfactorily, by checking out the designs and tips in [The New Create an Oasis with Grey Water](#) (book).

Don't commit these [Common grey water mistakes](#):

- Out of context design
- Overly complex, delicate and/or expensive systems with negative net benefit
- Excessive storage of gray water
- Treatment before irrigation
- Distribution of gray water through perforated pipe or other system where you don't know where the water is going
- Gray water to drip irrigation
- Automated systems for toilet flushing in a residential context
- Use of government agencies or established trade organizations or engineering firms for info on or construction of simple residential gray water systems
- Don't do the legal mini-leachfield system in the CA gray water law
- Discharge of gray water directly into natural waters or hardscapes
- CA gray water law held up as example to copy
- Cavalier disregard for legitimate public health concerns, and/or excessive paranoia about negligible health concerns

Pasted from <<http://www.oasisdesign.net/greywater/buildersguide/actionssummary.htm>>

Lead and Copper

Rainwater is considered to be very "soft" water because it contains so few dissolved minerals. One of the problems with extremely soft water is that it tends to be corrosive. Corrosive water can leach lead and copper from the metal pipes and fittings used to distribute your

drinking water and from the copper pipes and brass fittings that your customers use. As stated earlier, implementation of an effective corrosion-control program by you and the operator will adequately address this concern.

Disinfection By-Products

Disinfection by-products (DBPs) form when water that contains naturally occurring organic matter, such as decayed vegetation, is exposed to a chemical disinfectant, such as chlorine. Naturally occurring organic matter (NOM) is measured using total organic carbon (TOC). One of the main advantages of using a properly designed roof-based rainwater-harvesting system is that it minimizes the amount of TOC present in the untreated water. Low TOC levels reduce the possibility of higher concentrations