


Building Industry Institute

Protocol Documentation

Water Conservation

Water Conservation Plan Requirements: Reduce residential water use by 20,000 gallons compared to a typical home built to current standards at the same location.

Typical Residential Water Use

Total residential water use can be broken down into two categories. Each category can contribute to saving overall water usage for the entire household. The two categories are listed below:

1. Landscaping; and
2. Indoor plumbing

CGB Water Conservation Plan Requirements

The CGB Program requires that at least 20,000 gallons/year of water are saved versus a typical home.

Table of Overall Household Water Usage

Feature	Total Savings
Required:	
Weather Based Irrigation Controller (WBIC)	10 gal/s.f./yr
Options:	
Drip Irrigation	6 gal/s.f./yr
Native Plants	12 gal/s.f./yr
Reduced Turf (< 75%)	3.5 gal/s.f./yr
Clothes Washer (water factor \leq 6.0 or better)	2,200 gal/washer/yr
Toilets (1.28 gal/flush, maximum)	2,150 gal/toilet/yr
Recirculation DHW distribution with timer/temp demand OR	7,000 gal/yr
Parallel DHW Piping	7,000 gal/yr

Landscaping

For the CGB Water Conservation plan only the front yard water reduction is calculated because the builder generally provides only front yard landscaping. Lawns however, require more water than shrubs. When the lawn area is reduced and the shrub area is increased, there is a net reduction in water use. In addition, drip irrigation and weather based irrigation controllers provide significant savings at modest cost. These features can save up to 32 gallons per square foot per year.

Clothes Washing

Clothes washing accounts for about 12,000 gallons annual usage. The homebuyer usually provides a clothes washer. However, if a builder chooses to supply a clothes washer with a water factor \leq 6.0, the home will save about 2,200 gallons of water per year.

The CGB Program uses the following amounts for water reduction calculations:

- WBIC: total square feet X 10 gallons per square foot per year
- Drip: total square feet X 6 gallons per square foot per year
- Native Plants: total square feet X 12 gallons per square foot per year
- Reduced Turf: total square feet X 3.5 gallons per square foot per year
- Toilets: total toilets X 2,154 per toilet per year
- Recirculation or parallel DHW distribution piping: 7,000 gallons per year
- High efficiency (W.F. \leq 6.0) clothes washer (optional): 2,200 gallons per year

CGB Worksheet Information:

The CGB worksheet consists of four sections (energy efficiency, advanced ventilation and design, waste management, and water conservation). The builder completes *each* section for a valid application. You must complete one application and worksheet for each floor plan in your community (subdivision). If you choose to type in the information then print the form, calculations will be made automatically. If you choose to print the form and fill it out by hand, you must perform the calculations yourself.

How to complete the Water Conservation worksheet

Check the box next to each item you include in your plan. If there is an area to type in an amount, please fill in the appropriate number. The form will automatically calculate your water savings. If you are filling out the application by hand, the formula and numbers are provided for you.