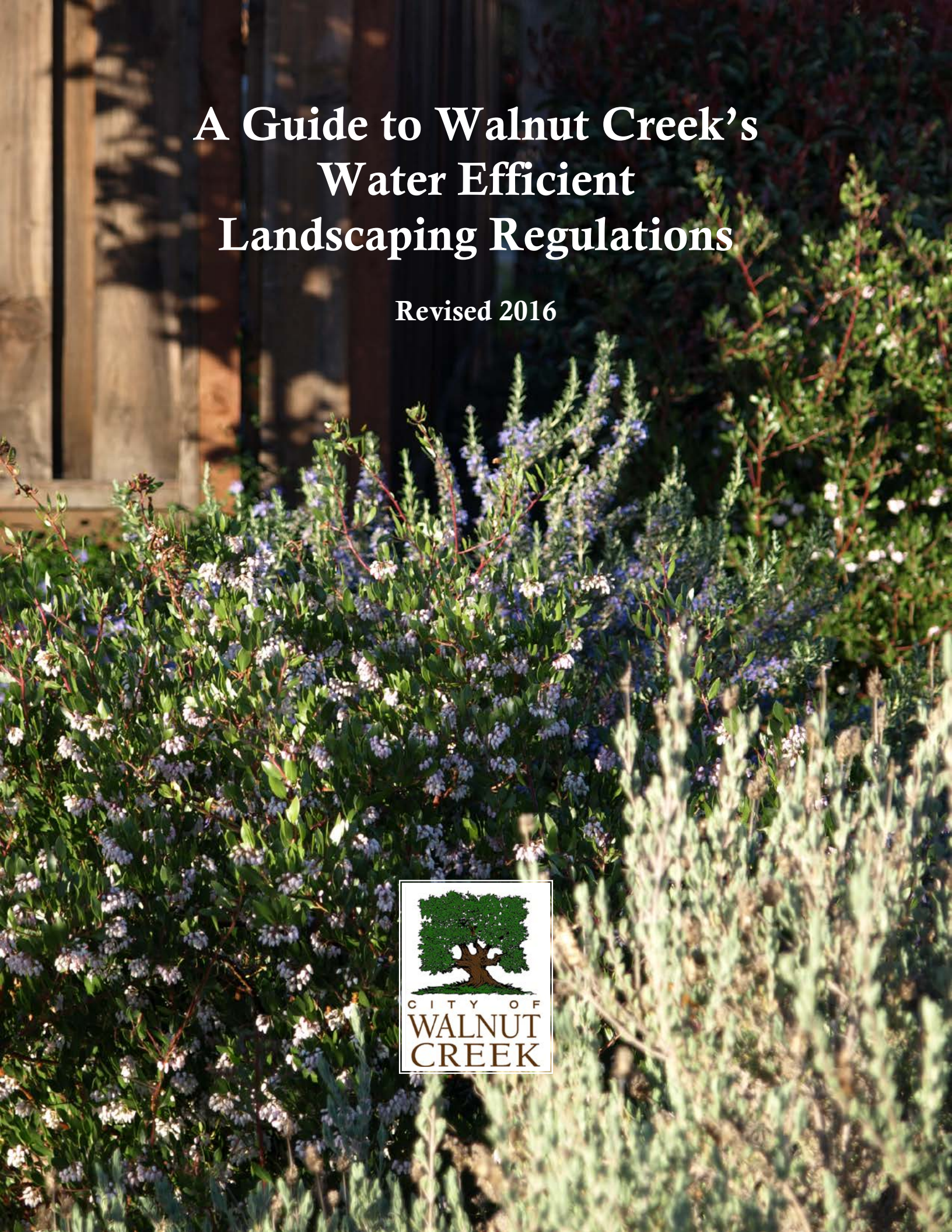


A Guide to Walnut Creek's Water Efficient Landscaping Regulations

Revised 2016

CITY OF WALNUT CREEK

"Whiskey is for drinking; water is for fighting over."
-commonly attributed to Mark Twain

In California, approximately 60% of the water used in a typical single family home is used for landscaping. This averages approximately 100,000 gallons of water every year *per home*. Recognizing that California's water resources are of limited supply and are subject to ever increasing demands, the State enacted a law requiring all of California's cities and counties to enforce a new set of water efficient landscaping regulations.

Recognizing the importance of water conservation, the Walnut Creek City Council adopted an ordinance creating a set of easier-to-follow water efficient landscaping regulations for Walnut Creek that supersede the State's regulations, yet are as effective in conserving water. This guidebook explains Walnut Creek's water efficient landscaping regulations.

2016

On the cover: Spanish Lavender (Lavandula stoechas), Vine Hill Manzanita (Arctostaphylos densiflora), and Rosemary (Rosmarinus officinalis) are all commonly used low or very-low water usage plants that grow well in the Walnut Creek area.

I. When do I have to follow these regulations?

Nobody is allowed to operate an irrigation system in a way that creates water runoff from their landscaping (i.e. you can't run your sprinklers so that they water your driveway and sidewalk, with the water running down the drain instead of into your garden). However, a majority of the City's regulations only apply if you are installing a large amount of new or replacement landscaping *and* are doing work which requires a City-issued permit (such as a Building Permit or Design Review).

Specifically, these regulations only apply if:

1) You are installing more than 500 sq. ft. of new landscaping, fountains, swimming pools, or other water-using features; or replacing more than 2,500 sq. ft. of the same.

AND

2) The landscaping or water features are included or required as part of a larger project that requires a City-issued permit (for example, new landscaping included as part of a new apartment complex, office building, or subdivision).

Sidewalks, paths, patios, driveways, and other hardscapes, and landscaping that is not irrigated (such as existing native vegetation), are not subject to these regulations. Landscaping that is watered by hand or only for a temporary period after planting is subject to these regulations.

II. What rules must I follow when creating my landscape and irrigation plan?

The design of your landscape and irrigation plan has to comply with the following rules:

a. Landscaping
   - Planting areas must be grouped by hydrozone (a hydrozone is a group of plants that require approximately the same amount of water; see Section III below for additional information);
   - Planting areas (other than lawns, etc.) must be covered with a minimum three-inch deep layer of mulch;
   - Lawns are not allowed on areas with slopes greater than 25% (more than 25 feet of rise over 100 feet of run).

b. Irrigation
   - Irrigation valve circuits (stations) must be grouped by hydrozone;
   - Overhead spray (sprinklers) cannot be located on the same irrigation valve circuit as low-volume irrigation devices (bubblers, drip emitters, etc.);

- Overhead spray cannot be used in planting areas that are less than eight feet in length or width, or where the shape of the planting area does not conform to the spray pattern of the spray head;
- Overhead spray cannot not be used for planting areas within 24 inches of a non-permeable surface (such as a driveway or sidewalk) unless the non-permeable surface drains back into the planting area being irrigated;
- Overhead spray cannot be used on areas with slopes greater than 25% unless the precipitation rate is less than 0.75 inches per hour;
- Overhead spray heads located on the same irrigation valve circuit must have matched precipitation rates;
- Swing joints or riser protection devices must be used for all overhead spray heads and above-ground rigid piping when located within 12 inches of a lawn, sidewalk, walkway, road, driveway, bicycle trail, playground, or other area which is subject to pedestrian, bicycle, or automobile traffic;

Sprinklers can't be used within 24 inches of a sidewalk, patio, or driveway unless it drains back into the planting area.

- Irrigation valve circuits which include overhead spray must be equipped with check valves or anti-drain valves that will retain water in the lateral lines after the irrigation system has turned off;
- All irrigation valve circuits that are located on slopes greater than 10% must be equipped with check valves or anti-drain valves that will retain water in the lateral lines after the irrigation system has turned off;
- The irrigation system must be equipped with all of the following:
  - a manual shut-off valve at the point of connection to the domestic water supply
  - a backflow prevention device (also known as an anti-siphon device);
  - an automatic irrigation controller that utilizes either evapotranspiration or soil moisture sensor data to automatically adjust watering schedules (these are commonly known as "smart controllers");
  - a rain sensor that suspends irrigation during rain;
- The irrigation system must be designed to prevent water runoff (when water flows beyond the irrigated landscape area, such as into the gutter).

c. Water features (fountains, decorative pools, etc.)

- Recirculating water systems must be used for all water features;
- Water features that incorporate fountains, sprays, or other aerial features must include a catchment area sufficient to recapture the water during windy weather.

III. What is a hydrozone?

A hydrozone is a grouping of plants that require a similar amount of water to grow. As used in these regulations, hydrozones are broken down into the following categories:

- High, moderate, low, and very low water usage plants: Plants other than turf grasses (i.e. lawns) or those which are in Special Landscape Areas (see below) fall into one of these four water-usage categories.

  To find out which category a particular plant belongs to, you need only look it up in the WUCOLS (the "Water Use Classification of Landscape Species," published by the University of California Cooperative Extension). This simple reference lists approximately 3,800 different species of landscape plants and categorizes them as high, moderate, low, or very-low water usage plants. Plants are listed both by their botanical and common names. The WUCOLS is available on the City's website at www.walnut-creek.org/landscaping.

The camellia (*Camellia japonica*) is a colorful, moderate water usage plant.

- Cool-season turf grasses: Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are all cool-season grasses (more are listed in the WUCOLS). This category does not apply to turf grasses located in Special Landscape Areas.

- Warm-season turf grasses: Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season grasses. This category does not apply to turf grasses located in Special Landscape Areas.

- Water features: Decorative features which use artificially-supplied water (including artificial ponds, waterfalls, fountains, streams, and decorative pools) fall under this category. Not included are naturally occurring water elements such as streams and lakes, or water elements such as swimming pools that are classified as Special Landscape Areas.

- Special Landscape Areas: Areas dedicated solely to edible plants (including fruit trees and vegetable gardens), areas irrigated with recycled water, water features using recycled water, and areas dedicated to active play such as parks, sports fields, golf course

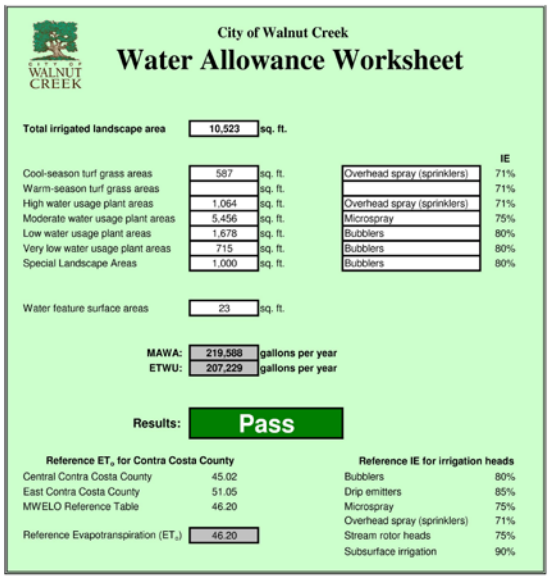
Vegetable gardens are classified as Special Landscape Areas. Gravel paths are not counted when measuring landscape area to determine if your plan is subject to these regulations.

greens, recreational spas and swimming pools, and where turf provides a playing surface (such as soccer or baseball fields) are all classified as Special Landscape Areas.

Planting areas that fall under different hydrozone classifications cannot share a common irrigation valve circuit unless the water usage of the hydrozone is calculated at the rate of the highest water using plants (i.e. if high and moderate water usage plants are both located on the same sprinkler valve, then they must all be classified as high water usage plants).

IV. How do I calculate how much water my landscape plan will use?

At the core of the regulations is a requirement that your landscape plan use less water than the maximum amount allowed based on the size of your planting areas. Calculating the amount of water used by your landscape plan (known as the "estimated total water use" or ETWU), and the maximum amount allowed by the regulations (known as the "maximum applied water allowance" or MAWA) can be done manually through a series of algebraic equations contained in the regulations, or automatically by a customized Microsoft Excel worksheet created by City staff and available on the City's website at www.walnut-creek.org/landscaping.



City of Walnut Creek

Water Allowance Worksheet

				IE
Total irrigated landscape area	10,523	sq. ft.		
Cool-season turf grass areas	587	sq. ft.	Overhead spray (sprinklers)	71%
Warm-season turf grass areas		sq. ft.		71%
High water usage plant areas	1,064	sq. ft.	Overhead spray (sprinklers)	71%
Moderate water usage plant areas	5,456	sq. ft.	Microspray	75%
Low water usage plant areas	1,678	sq. ft.	Bubblers	80%
Very low water usage plant areas	715	sq. ft.	Bubblers	80%
Special Landscape Areas	1,000	sq. ft.	Bubblers	80%
Water feature surface areas	23	sq. ft.		

MAWA: 219,588 gallons per year
ETWU: 207,229 gallons per year

Results: Pass

Reference ET_o for Contra Costa County		Reference IE for irrigation heads	
Central Contra Costa County	45.02	Bubblers	80%
East Contra Costa County	51.05	Drip emitters	85%
MWELO Reference Table	46.20	Microspray	75%
		Overhead spray (sprinklers)	71%
Reference Evapotranspiration (ET_o)	46.20	Stream rotor heads	75%
		Subsurface irrigation	90%

Use the Water Allowance Worksheet (available in Microsoft Excel format) to automatically calculate your water usage.

Regardless of the method you use to calculate your water usage, you will need to know the size of each hydrozone and what type of irrigation method is used (i.e. overhead spray, bubblers, drip emitters, etc.). You *do not*, however, need to calculate your water budget if your landscape plan does not include any turf grasses, high water usage plants, or water features.

Microspray heads are more efficient than sprinklers.

Bubblers are more efficient than microspray heads.

V. What are the rules for operating my irrigation system?

There are a few simple rules that have to be followed regarding the use of your irrigation system. First, you have to keep it maintained for proper operation and such that it does not create any water runoff (in other words, if a sprinkler head is broken off and the resulting geyser sends all the water running down the gutter, you have to fix it; or if your automatic irrigation controller breaks, you have to replace it). Second, if your irrigation system includes overhead spray (sprinklers), you can't use them between 10 a.m. and 8 p.m. (this is to avoid a large amount of water evaporating in the sun or blowing away in the wind). And lastly, you have to trim any plants that are blocking your sprinkler heads and replenish your mulch cover if it gets blown or washed away.

VI. What is the permitting process for my landscape plan?

You do not need a separate permit for your landscape and irrigation plan, and as mentioned in Section I above, these regulations only apply if the landscaping is part of a larger project that requires a City-issued permit. The review and certification of your landscaping and irrigation will be incorporated into the permit for your total project (such as your Building Permit or Design Review application). The steps you'll need to take in order to comply with these regulations are as follows:

1. Prepare your landscape and irrigation plan. You may wish to hire a landscape architect or other qualified professional to do this work for you, or if you are familiar with drawing plans and the basics of landscaping, horticulture, and irrigation system design, you can do it yourself. The requirements for what must be included in your plans are listed in the regulations themselves, as well as on the Certificate of Compliance described below.

2. Fill out and submit your Certificate of Compliance. This form is used to certify to the City that your plans comply with the water efficient landscaping regulations. You will submit this form to the Planning Division along with your permit applications for your total project. Blank forms are available at City Hall, or on the City's website at www.walnut-creek.org/landscaping.

3. Collect soils sample(s) and send it to a lab for analysis. The soils analysis needs to be conducted by a qualified laboratory and include tests appropriate for the laboratory to make recommendations for soil preparation and/or amendments. Such tests may include soil texture, infiltration rate, pH, sodium, soluble salts, and percent organic matter. The soils sample(s) need to be collected in the planting areas after all grading work (if any) is completed. The soil analysis report must be provided to the person(s) preparing the landscape and irrigation design plans in order to accommodate making any necessary adjustments to the plans. You will need to submit the soils analysis report along with your Certificate of Completion described below.

4. Check to see if you will need to install a separate water meter for your irrigation system. Unless you are using recycled water, rainwater, or water from a well, you will need to

check with your water service provider (either the Contra Costa Water District (CCWD) or the East Bay Municipal Utility District (EBMUD)) to see if you will be required to install a separate water meter for you irrigation system. CCWD customers should contact the Engineering Services Coordinator at (925) 688-8013. EBMUD customers should contact the New Business Office at (510) 287-1008 or nbo@ebmud.com.

5. Install your irrigation and landscaping. If you decide to make changes to your plans, you will need to submit them to the Planning Division along with a new Certificate of Compliance.

6. Hire a certified irrigation auditor to perform a landscape irrigation audit. The landscape irrigation audit must be conducted by an EPA WaterSense Certified Irrigation System Auditor. *Landscape audits cannot be conducted by the person(s) who designed or installed the landscaping.* The following certifications meet this requirement:

   - California Landscape Contractors Association (CLCA) Certified Water Manager
   - Irrigation Association (IA) Certified Landscape Irrigation Auditor
   - Qualified Water Efficient Landscaper Program (QWEL) Graduate

   The auditor must certify that the installed landscaping, irrigation system, and irrigation schedule meets the requirements of the City's water efficient landscaping regulations. Specifically, they must verify the following:

   - That the landscaping and irrigation system have been installed as shown on the landscape and irrigation plans;
   - That the landscaping and irrigation system comply with the Development Standards indicated on the Certificate of Compliance;
   - That the irrigation schedule included in the audit report utilizes the minimum amount of water required to maintain plant health;
   - That the irrigation schedule does not utilize overhead spray irrigation devices between the hours of 10:00 a.m. and 8:00 p.m.;
   - That the irrigation system is functioning properly and operating as designed.

   You will need to submit the landscape irrigation audit report along with your Certificate of Completion described below.

7. Fill out and submit your Certificate of Completion. This form is used to certify to the City that your installed landscaping and irrigation system comply with the water efficient landscaping regulations. You will also need to submit your soils analysis report, irrigation schedule, and your landscape irrigation audit report along with your Certificate of Completion. Blank forms are available at City Hall, or on the City's website at www.walnut-creek.org/landscaping.

VII. Who can I contact if I have questions?

You can talk to the Planner-On-Duty at the Development Services Counter on the 2nd floor of City Hall, on the phone at (925) 256-3558, or via e-mail at dutyplanner@walnut-creek.org.