

## **Residential Irrigation Efficiency Rebate Program Frequently Asked Questions**

### **What is Irrigation Efficiency?**

Irrigation Efficiency is a critical measure of irrigation performance in terms of the water required to irrigate a landscape. It can be defined in terms of 1) the irrigation system performance, 2) the uniformity of the water application and 3) the response of the landscape to irrigation. Having an efficient system is better for the landscape and saves water. Irrigation systems and/or equipment that were badly designed, inefficient, or poorly maintained reduces the irrigator's degree of control over the way water is applied.

### **What is the Residential Irrigation Efficiency (RIE) Rebate Program?**

The RIE program was developed to help customers upgrade their irrigation systems to make them more efficient. Examples of efficiency improvements can be replacing sprayers in non-turf areas with low volume drip irrigation systems. Removing pop up spray heads in turf areas and replacing them with low precipitation, high distribution uniformity or multi-stream nozzles with an inches per hour (In/h) flow rate of 1.2. Installing a pressure regulator on the irrigation system reducing the pressure to an appropriate level for proper system performance; and installing check valves in low-lying sprinklers (typically at the bottom of a slope) to stop excess drainage from seeping from the sprinkler head. The program offers a rebate up to \$100 per site to remove inefficient equipment and replace with more efficient irrigation or pressure regulating equipment. A site is the physical address of the property owner of record. The program offers 100% equipment reimbursement and no labor reimbursement. Itemized receipts are required.

### **What does the rebate cover?**

Eligible irrigation equipment includes equipment that improves irrigation efficiencies as determined by City of Roseville staff. The Program offers 100% equipment reimbursement and no labor reimbursement. Efficiencies may include:

- Drip irrigation systems
- Replacing mis-matched sprinkler heads with like-kind heads.
- Water pressure-regulating devices
- Check valves
- Low precipitation; high distribution uniformity or multi stream rotating nozzles
- Rain shut off devices and/or moisture sensors
- Note: Microspray systems do not meet the terms of the program

Rebates shall be given for water efficient material only. Items such as couplings, wiring, electrical tape, etc. are excluded from rebate funding. If irrigation improvements will be made by a landscape contractor, the City recommends that the work be performed by a State of California licensed landscape contractor that holds a C27 or D12 specialty license (or a C36 plumbing license for pressure regulation equipment installation) and a business license with the City of Roseville.

### **How do I know if the parts I purchase are eligible for this program?**

Eligible parts are those that reduce water use in the landscape by operating at a lower volume, have a more uniform spray pattern or have high distribution uniformity.

The most common part types and their respective flow rates are listed here:

Precision nozzles: Spray nozzles that distribute water at less than 1.20 inches per hour

Drip irrigation systems: each emitter distributes water at less than 2.5 gallons per hour

In-line irrigation systems: drip line to distribute water at less than 1.0 gallons per hour per built in emitter

Multi-stream rotating nozzles: nozzles that distribute water at less than .92 inches per hour

**Are micro-spray systems allowed?**

No. Micro-sprays are subject to evaporation losses and spray pattern disruption in windy conditions causing plants to be irrigated when not needed.

**Does turning in an application mean I can start work?**

No. City of Roseville Water Efficiency Staff will review your application, irrigation plan, and detailed parts list prior to scheduling a pre-conversion site visit. At this site visit, the staff member will give the approval to start work if all the proper documentation is in place. You will then have 60 days to complete the project.

**What do I need to complete before my pre-inspection?**

To avoid delays, all applicants will need to fill out the application form completely and include the irrigation improvement plan sketch (Attachment A) as well as a detailed parts list of the current equipment and proposed water efficient products to be installed on the irrigation system (Attachment B).

**What is the purpose of the Irrigation Improvement Worksheets?**

The worksheets give efficiency staff a better understanding of the improvements to be made to your landscape. Drawing a sketch of your current irrigation system and another of your proposed changes offers a visual demonstration enabling staff to conduct an efficient pre-and post-inspection. The sketch shall include the overall irrigation system design featuring any zones and/or stations that will receive the water efficient upgrade. The sketch should also identify the locations where retrofits will take place. Roughly identifying existing plant material in the sketch (using the offered plant types) will help staff better determine sprinkler placement. The detailed parts list will be used to reimburse you for purchased parts. If using a licensed contractor, this information should also be included in the contractor's estimate. The list should contain the quantity of the old equipment that is being replaced and the type, model, and quantity of the new equipment to be installed on site.

**What is an irrigation zone and/or an irrigation station?** An irrigation zone or a station is a portion of the sprinkler system activated by an irrigation control valve that operates a group of sprinklers or drip emitters. A typical irrigation system has several zones operated by irrigation control valves. Typically one zone valve is turned on at a time, and controls the irrigation in a specific area of the yard. While usually only one valve is connected to each output, it is possible for two or more valves to be connected to one station if the controller transformer can handle the load.

**How do I find the details of the parts I am replacing?** The best way to determine details of any product is to go online and look at the manufacturer's technical specification catalogs. These catalogs have specific information on pressure requirements and spacing that will help you in purchasing the right product for your yard. You can also visit any irrigation supply store, nursery, or hire a professional that has this information.

**How do I calculate water savings?**

There is a formula you can use to calculate the water savings per station in gallons per minute. You would then need to add any additional stations to that figure to get a total number of gallons per minute saved. You would need to find out the model, type, and spacing of sprinkler heads you have and look up the manufacturer's product catalog to determine the precipitation rates for that specific head. You would do the exact same thing for the new sprinkler heads and follow the formula below to determine the calculated savings.

Our sample calculation for rebates is based on the scenario below:

### ***Savings Formula***

a = total water usage rate of old equipment =  
b = total water usage rate of new equipment =  
c = average time equipment runs per day =  
d = number of days per year equipment runs =  
e = number of gallons per ccf = 748  
*ccf = hundred cubic feet*  
*1 ccf = 748 gallons*

$$\text{Annual ccf decrease} = \frac{(a-b) \times (c) \times (d)}{(e)}$$

Example:

a = 14.8 gallons per minute (8 standard pop up heads at 1.85 gpm (or 1.87 inches/hour))  
b = 5.84 gallons per minute (8 multi-stream nozzles at .73 gpm (or .77 inches/hour))  
c = 10 minutes  
d = 250 days per year  
e = 748

$$\text{Annual ccf decrease} = \frac{(14.8 - 5.84) \times 10 \times 250}{748} = 29.94 \text{ ccf or } 22,400 \text{ gallons}$$

### **When does the timeframe start and how long do I have to complete the project?**

The 60 day project timeframe starts when a completed pre-conversion site visit takes place. At the time of the scheduled site visit, conservation staff will sign-off on the project giving the authorization to start the planned upgrades.

### **What do I do when my project is complete?**

When your work has been completed, compile all required supporting documentation (project receipts with itemized equipment costs and/or an itemized invoice from a licensed landscape contractor) and call 916-774-5761 to schedule a post inspection. At the post-conversion inspection you will give City staff your information packet. Once inspected and approved your rebate will be calculated and processed within 4-6 weeks.

### **Do I need a State licensed contractor?**

If you choose to hire out the work to be performed the City recommends that you hire a State of California licensed contractor holding a C27 or D12 specialty license (or a C36 plumbing license for pressure regulation equipment installation). The contractor should also have a current City of Roseville business license.