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Smart Water Application Technologies (SWAT) Performance Report

Testing Agency: Center for Irrigation Technology **www.californiawater.org**

Product: ESP-LX Modular Controller with ET Manager Cartridge

Product Type: Climatologically Based Controller

Product Description: ET Manager Cartridge uses radio broadcasts from local weather stations to make real-time adjustments based on hourly information to the ESP-LX Modular Controller irrigation schedule.

SWAT Protocol*: Turf and Landscape Equipment Climatologically Based Controllers 8th Draft Testing Protocol (Sept. 2008)

The concept of climatologically controlling irrigation systems has an extensive history of scientific study and documentation. The objective of this protocol is to evaluate how well current commercial technology has integrated the scientific data into a practical system that meets the agronomic needs of turf and landscape plants. The evaluation is accomplished by creating a virtual landscape subjected to a representative climate to evaluate the ability of individual controllers to adequately and efficiently irrigate that landscape. After initial programming and calibration the controller is expected to perform without further intervention during the test period. Performance results indicate to what degree the controller maintained root zone moistures within an acceptable range. If moisture levels are maintained without deficit, it can be assumed the crop growth and quality will be adequate. If moisture levels are maintained without excess it can be assumed that scheduling is efficient.

***All SWAT protocol may be viewed at www.irrigation.org**

Rain Bird ESP-LX Modular Controller w/ET Manager Cartridge SWAT Performance Summary

Irrigation Adequacy	Irrigation Excess
Minimum of 6 test zones: 100% **Maximum of 6 test zones: 100%** **Mean/Average of 6 test zones: 100%** **Irrigation Adequacy** represents how well irrigation met the needs of the plant material. This reflects the percentage of required water for turf or plant material supplied by rainfall and controller-scheduled irrigations. Research suggests that if this value is between 80% and 100%, the acceptable quality of vegetation will be maintained.	**Minimum of 6 test zones: 0%** **Maximum of 6 test zones: 4.5%** **Mean/Average of 6 test zones: 1.5%** **Irrigation Excess** represents how much irrigation water was applied beyond the needs of the plant material. This reflects the percentage of water applied in excess of 100% of required water according to data from Agrimet MDFO (Medford, OR) during the test period.

Product Detail Supplied by Manufacturer
Rain Bird ESP-LX Modular Controller w/ET Manager Cartridge www.rainbird.com

Installation	Data Source	Data Link	Initial Purchase	Additional Hardware	Additional Fees
Retrofit with existing ESP-LX Modular Controller or install as new system	Weather Reach accesses a weather station and sends local weather information hourly to ET Manager Cartridge	Wireless paging	Purchase price includes system to control up to 8 zones and an ET Manager Resource CD with scheduling software and setup tools	❑ Optional Tipping Bucket Rain Gauge ❑ Optional Remote Mounting Kit ❑ Optional ET Manager Programming Software	Varies depending on Weather Reach Signal Provider.

Additional Features

Zones	Time of Day	Day of Week	Other	If Data Link is Discontinued
8-station base expands up to 32 stations with hot swappable modules in 4- or 8-station increments	Capable of restricting watering during selected time of day.	Capable of restricting watering days by selection or interval.	❑ Cycle+Soak™ ❑ Hourly Weather Reach Service Provider Page ❑ Automatic Monthly Seasonal Adjust ❑ Contractor Default™ ❑ Multi-lingual (seven languages) ❑ Large display and Program Review ❑ 10-year lithium battery ❑ Calendar Day Off function ❑ Sensor Override by station	The ET Manager Cartridge features a historical ET database used in the event the Weather Reach signal is interrupted.