



WATERTRONICS®



SKYHARVESTER TURNKEY WATER HARVESTING SYSTEMS

SkyHARVESTER™

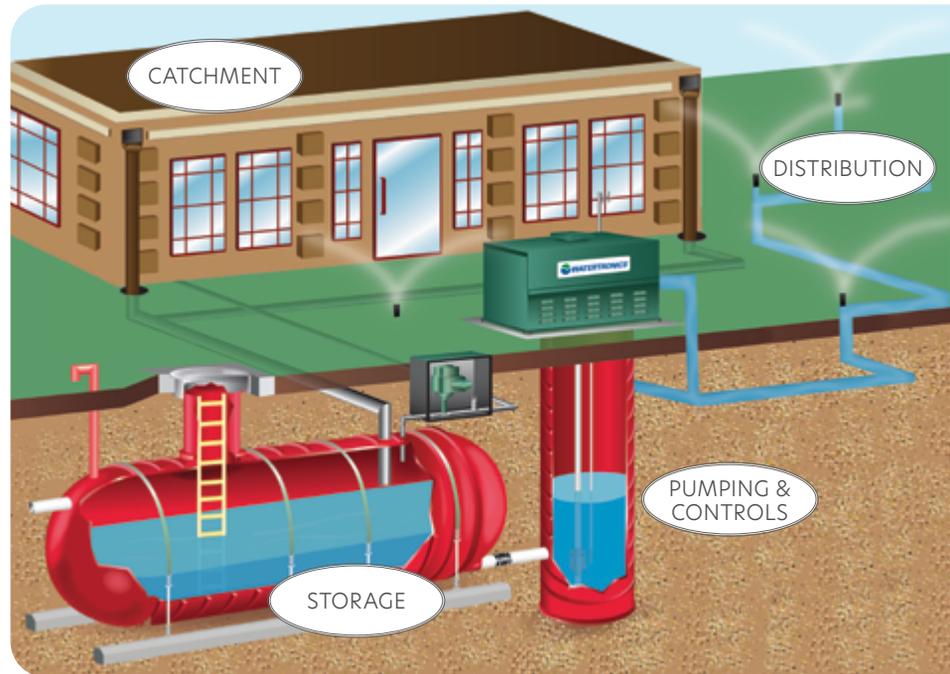


THE SUSTAINABLE, COST-EFFECTIVE WATER MANAGEMENT SOLUTION

The Skyharvester product line from Watertronics provides a single-source solution for commercial water harvesting systems for new or existing building sites. A water harvesting system gathers water from one or more building locations such as rooftops, parking lots, and air conditioning units to store, filter and distribute water for your specific non-potable use.

A COMPLETE SKYHARVESTER SYSTEM INCLUDES:

- ◆ Tank pre-filter to remove debris from the water prior to storage.
- ◆ Above or below ground storage tank with capacity sized per job.
- ◆ Pre-packaged engineered Watertronics pump station.
- ◆ UL508A Motor Control Panel with intuitive operator interface.
- ◆ The ability to control up to three replenishment water sources.
- ◆ Optional automatic discharge filtration and water treatment.



SINGLE SOURCE RESPONSIBILITY: TO THE GREATEST EXTENT POSSIBLE, OBTAIN THE SYSTEM COMPONENTS FROM ONE SOURCE AND FROM A SINGLE MANUFACTURER.

Excerpt from *The Federal Green Construction Guide for Specifiers, 2010*



PHASE ONE - STORAGE INSTALLATION



PHASE TWO - PUMP STATION INSTALLATION



PHASE THREE - COMPLETION

A 20,000-gallon composite tank buried beneath a parking lot at UNUM Insurance stores rainwater without compromising valuable real estate.

Each project should begin with a complete analysis of available water sources to maximize potential and desired end use. The following steps will lead to a successful water harvesting system.



1 CATCHMENT

The catchment area can be any surface that water falls upon or any device that discards water.

Depending on what surface we're collecting water from, the level of filtration necessary may vary. This is where pre-filtration comes in.

- ◆ Hard surface roofs
- ◆ Parking lots
- ◆ Air conditioning units
- ◆ Synthetic turf
- ◆ Children's splash pads



2 PRE-FILTRATION

A pre-filter is used to remove dirt, debris and organic matter from the harvested water in order to keep the storage tank clean, resulting in better water quality and less tank maintenance. The level of filtration depends on what surface the water is collected from.

Here are a few things to remember when following the pre-filtration step:

- ◆ Some filters have oil-water separation; others offer automatic self-flushing capabilities
- ◆ The best way to filter is at the source
- ◆ The better the filtration upstream, the less money/effort is required for filtration downstream



3 STORAGE

Selecting the proper storage vessel is one of the most important decisions in the harvesting process. An improperly sized tank can mean running on 5% vs. 95% harvested water. Tank placement on the property is a key factor and should optimize commercial land values.

Criteria in selecting the tank size include:

- ◆ Average rainfall
- ◆ Collection area
- ◆ Other available water sources
- ◆ Water consumption requirements for filtration downstream



4 PUMPING

The pump station is the heart of the water harvesting system. The leader in pump station manufacturing, Watertronics has over 30 years experience and 10,000 pump station installations worldwide. Each unit is dynamic factory tested and will arrive ready to perform as promised.

- ◆ Pumps can be submersible (inside the tank or wet well) or self-enclosed horizontal centrifugal units
- ◆ Pump stations can be Variable Frequency Drive (VFD) driven or constant speed



5 CONTROLS

SkyHarvester systems operate independently without human intervention and are self-protecting. Our intuitive advanced control technology provides the following information:

- ◆ Tank level in inches, gallons and percent full
- ◆ Run-time hours
- ◆ 14 different alarms with time/date-stamp log
- ◆ Filtration status and set-points
- ◆ Replenishment water status and set-points
- ◆ Lifetime total and user-resettable counters for:
 - > Total harvested water used
 - > Total replenishment water used, up to 3 sources
 - > Total power consumption data (when selected)
- ◆ Real-time flow and pressure display of harvested water
- ◆ Real-time flow display and on/off status of replenishment water
- ◆ Real-time power consumption (optional)
- ◆ Ability to adjust all system parameters/set-points, including:
 - > Pressure regulation: single set-point mode or flow-based mode
 - > Water level set-points: pump alarm level, pump reset level, alternate source on/off
 - > Post-filtration set-points: pressure differential based on flow or single set-point, total gallons pumped through filter, timed interval, flush duration, flush dwell time (multiple filters)
- ◆ Ability to communicate with building management system via Serial MODBUS



6 POST-FILTRATION & WATER TREATMENT

Post-filtration and water treatment are custom designed to meet each project's final water use requirements. Discharge filters are fully automated by the system controls.

Standard drip irrigation typically requires filtration to the 100 micron level, while UV can require screen sizes down to 25 micron or smaller.

For particulate screening (TSS), the automatic suction scanner filter utilizes an internal cleaning mechanism that doesn't require manual disassembly like other traditional filters.

Various treatment systems available:

- ◆ UV (Ultra Violet Disinfection)
- ◆ Chlorination
- ◆ Media filtration
- ◆ Ultra-filtration
- ◆ Reverse osmosis



7 REPLENISHMENT WATER

Most customers include a replenishment water source to prevent water shortages and protect valuable investments such as expensive landscape plantings. It is important to consider the design of the replenishment water system, as errors could lead to major liabilities—particularly in toilet-flushing applications.

If a backup water supply is determined to be necessary, there are two options available:

- ① Direct plumbing to water distribution system, or
- ② Routing to storage tank for filling as necessary

SOME OF OUR SKYHARVESTER CUSTOMERS

American Express Call Center | FL

Cedar Rapids Library | IA

Cincinnati Zoo | OH

Coca Cola Distribution Center | KY

Dilworth Plaza Philadelphia | PA

Georgia World Congress Center | GA

Hays School district | TX

Horseshoe Casino | MD

Independence Park Splash Pad | UT

Kansas City Performing Arts Garage | MO

Milwaukee Clock Shadow Building | WI

Mitchell Park Domes | WI

Northwestern University Residence Hall | IL

Ocean Springs Splash Pad | MS

Point Defiance Zoo and Aquarium | WA

Radio Flyer | IL

SEATAC Airport | WA

State Farm Atlanta | GA

Staten Island Courthouse | NY

Tactical Unmanned Aerial Support Facility | ID

TD Ameritrade | NE

University of KY | KY

University of WI Milwaukee Residence Hall | WI

US Embassy | multiple locations

Wishard Hospital | IN



**SKYHARVESTER SYSTEMS
HELP EFFICIENTLY MANAGE
OUR MOST PRECIOUS
RESOURCE WORLDWIDE.**

PRE-ENGINEERED WATER HARVESTING SYSTEMS

SH-MICRO FOR DRIP IRRIGATION

The SkyHarvester SH-Micro is a pre-packaged engineered pump station featuring a submersible pump, VFD pressure regulation, discharge filtration, and level controls. With the ability to pump up to 60 GPM, filter water to 100 micron, and control a back-up water supply in the event harvested water is not available, the SkyHarvester SH-Micro can deliver harvested water for drip and micro-spray irrigation systems at a constant pressure under varying flow rates to meet today's commercial needs.



SH-80 FOR INTERIOR OR EXTERIOR WATER USAGE WITH DISINFECTION

The SkyHarvester SH-80 is a pre-packaged engineered pump station featuring integrative controls, filtration and water treatment. This system is available for submersible and flooded suction applications, can pump up to 80 GPM, filter water to 25 micron, and disinfect water with ultraviolet light to a LOG 4 reduction of common microbial contaminants.



WATERVISION 2.0™

WATERVISION REMOTE TELEMETRY

Stay connected and in control of your pump station with WaterVision® 2.0. This next generation of advanced cloud telemetry give users the same control on a mobile device as they have at the station to monitor and make full system adjustments like set points, safeties, and alarm resets. Generate water usage reports and diagnostic charts for better water management. View status of key station equipment in one spot on the WaterVision dashboard.



For more information visit watertronics.com or call 1-800-356-6686.



Watertronics PSN provides nationwide technical service for installation, startup, user training, maintenance and parts sales.



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