

UNIVERSITY OF ILLINOIS
AT URBANA - CHAMPAIGN

Campus Recreation
Activities and Recreation Center
Suite 1430, MC-556
201 East Peabody Drive
Champaign, IL 61820



March 20, 2009

Student Sustainability Committee
ATTN: Suhail Barot

RE: Campus Recreation Sustainability Proposals

Dear Committee Members:

Campus Recreation has actively engaged in the effort to be a more energy conscious unit on the University of Illinois Campus. On February 27th, we submitted a letter of intent for 12 projects. Since that time, our internal green team has spent countless hours researching, meeting, and discussing these projects while prioritizing where we could make the biggest impact. Our operations are listed in the Big 80 energy users for this campus. Given that listing, we realized that we could make an impact almost immediately, and it was with that knowledge last summer that we began to make changes. Attached is a listing of the actions we have already taken, as well as those that are currently in process.

We hope that you realize that Campus Recreation understands the seriousness of the efforts needed and supports the university in its efforts, and that you will assist us with funding support for the proposals attached. If you should need further information, please feel free to contact either myself, Brian Baxter, or Mike Litchford. We would like to thank you all for your efforts with these reviews and hope that together we can all work toward a more responsible and efficient campus.

Sincerely,

A handwritten signature in black ink that reads "Robyn M. Deterding".

Robyn M. Deterding
Campus Recreation Green Team Chair



Campus Recreation

Sustainability Statement

Campus Recreation is striving to reduce its energy consumption and cost, along with its carbon footprint by eliminating waste and increasing energy and water efficiency. While accomplishing these goals, we hope to promote awareness for and educate our users about their effect on the environment. Furthermore, Campus Recreation is resolute in supporting companies offering “green” products and services through our purchasing power.

Initiatives Campus Recreation has already taken:

- **Facility Controls**
 - Worked with Facilities and Services in preparing CRCE to be part of the “Runtime Reduction Program” regarding heat/air usage. ARC is on the list for this project.
 - Meters installed at CRCE and ARC
 - Installed 18 separate switches for lighting at CRCE
 - Computers being configured to sleep earlier when not in use, including monitors
 - Fitness equipment sleep mode set at 2 minutes
 - Hosted two conferences in which materials were placed on website vs. paper copies
 - Ice Arena has Astro-foil ceiling: it is reflective, providing additional light while not absorbing heat.
 - Ice Arena replaced 122 lights with the energy-efficient T8 lights
 - Between new cooling towers, a new ceiling, new lights and a low-emissivity foil system, the energy load at the Ice Arena should be reduced by 30-45%.
 - All outdoor lighting has been changed to fluorescent, metal halide or mercury vapor.
 - Installed two synthetic turf fields which help cut down use on seed, water, fertilizer, pesticides and herbicides.
 - Installing all native Illinois plants in outside landscaping decreasing use of water and fertilizers.
- **Reduce, Reuse, Recycle**
 - Ice Arena locker room and lobby benches are made from recycled plastic.
 - Adventure Center countertop made from 100% recycled wood.
 - Semester guides, annual report, aquatic brochures, and ice skating brochure all printed on recycled paper.
 - Recycling all waste materials through Facilities and Services.
 - Recycled the old multipurpose room 6 wood floor by giving it to Dance Department.
 - Installation of digital signage throughout ARC to help reduce need of paper posters for promotional materials.
- **Cleaning and Maintenance**
 - Installation of automatic towel dispensers and foam soap dispensers at all facilities. Foam soap is a green product.
 - Switched to green cleaning chemicals when possible, as well as installing automatic dispensers to insure we are getting the right ratio of water to chemical instead of depending on each person to always use the right ratio.
 - Snow-melt for ice, snow, etc is a green product.
 - Replaced paper towels with cloth toweling to clean fitness equipment.

- **Education/Awareness Initiatives**

- Developed “Go Green” campaign with educational posters, digital signage, and web site displaying what Campus Recreation is doing and what users can do.
- Hosted an event in fall semester where we distributed 100% recycled water bottles so people could stop using their plastic water bottles.
- Internal Green Team Committee
- Participate in the Student Affairs Green Team Committee
- Two staff serve as Energy Liaisons to Campus Sustainability Office
- Collected 32-pounds of used electronics and then took to appropriate recycling centers.
- Taking part in Earth Hour on Saturday, March 28, when Campus Recreation will turn off lights and televisions at the ARC for one hour.

Initiatives Campus Recreation has activated:

- **Energy Reduction**

- Work orders have been placed to reduce the number of active ballasts in the ARC while still providing adequate and safe lighting
- Current research on a reduction effort on CRCE
- Ice Arena currently operates on half-lighting
- Research done on solar panel roofing system for the ARC, CRCE, and Ice Arena

Campus Recreation Restroom Water Reduction

Project Lead Contact Information

Name: Michael Litchford

Phone: 244-9534

E-mail: litchfor@illinois.edu

Address: 201 E. Peabody Drive

Title: Staging and Building Coordinator

Champaign, IL 61820

Organization/Department: Campus

Recreation

Secondary Contact Information

Name: Brian Baxter

Phone: 333-2677

E-mail: bbaxtr@illinois.edu

Address: 201 E. Peabody Drive

Title: Assistant Director of Strength and
Conditioning

Champaign, IL 61820

Organization/Department: Campus Recreation

I. Detailed Project Description:

Campus Recreation is interested in reducing the water consumption of its patrons without interfering with their perceived comfort or routine. To accomplish this goal, we propose replacing the currently installed flush valves with dual-flush valves, installing new pint-flow urinals, and motion-sensor water faucets in our three largest buildings. The high water consumption of our buildings during various events also provides us with an excellent opportunity to educate our patrons on our facility reduction efforts and their collaborative role in reducing waste.

All toilet flush valves will be retrofitted with a WES-213 Dual-Flush handle and Diaphragm kit that maintains a 1.1 gallons per flush (gpf) by lifting up for liquid waste and the normal 1.6 gpf flush by pushing down for solid waste. The handle itself is green with small written instructions on the fixture, and we will post instructions within the water closet for proper use. We propose to replace 64 flush valves at the ARC, 25 at CRCE, and 16 at the Ice Arena for a total of 105 valve replacements. We believe that this effort will not only reduce the amount of water used during normal use, but will also help educate the general public about the importance of water reduction as a daily practice.

Restroom sink faucets in all three buildings will be replaced with 62 4" and 38 8" Zurn Model Z6915 AquaSense faucets. These faucets are battery operated with an infrared convergence-type proximity sensor and will include a .5 gallon per minute vandal resistant aerator. By combining both the motion sensor fixture with a lower flow aerator, we believe that we can maximize water reduction at our restroom sinks.

We propose replacing 32 urinals from the main Campus Recreation buildings with the Zurn Z5758 .125 gpf Ultra Low Consumption Urinal System. This product provides significant reduction in waste water by reducing urinal flow from 1gpf to .125gpf.

Originally we also planned to propose battery operated soap dispensers, but this line item was removed over concerns of a greater upkeep cost and wasteful battery use. Simple push handle foam soap dispensers will replace older units as needed by the department.

II. Budget & Fundraising:

The project budget is broken up into various categories for line-by-line auditing during the reviewing process.

ARC

50 4"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery-powered with .5 GPM aerator

Material:	\$329.00 ea. X 50	=	\$16,450.00
Labor:	\$180.00 ea. X 50	=	<u>\$9,000.00</u>
	Total:		\$25,450.00

8 8"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery powered with .5 GPM aerator and 8" cover

Material:	\$371.00 ea. X 8	=	\$2,968.00
Labor:	\$180.00 ea. X 8	=	<u>\$1,440.00</u>
	Total:		\$4,408.00

15 Urinals

Zurn Z5758 ultra low consumption urinal system with Ecovantage battery powered flush valve, uses 1/8 GPF with 85% water savings over standard 1GDF urinal

Material:	\$494.00 ea. X 15	=	\$7,410.00
Labor:	\$240.00 ea. X 15	=	<u>\$3,600.00</u>
	Total:		\$11,010.00

64 Water Closets

Sloan UpperCut dual-flush water conservation tune-up kit. Handle is green in color to inform the user it is for water conservation. Lift handle up initiates reduced flush (1.1 GPF) pushing handle down initiates normal (1.6 GPF), reduces water volume by up to 30% when activated upwards.

Material:	\$54.00 x 64 ea.	=	\$3,456.00
	\$60.00 x 32 ea.		
Labor:	2/Hr	=	<u>\$1,920.00</u>
	Total:		\$5,376.00

CRCE

2 4"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery-powered with .5 GPM aerator

Material:	\$329.00 ea. x 2	=	\$658.00
Labor:	\$180.00 ea. X 2	=	<u>\$360.00</u>
	Total:		\$1,018.00

24 8"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery-powered with .5 GPM aerator and 8" cover plate

Material:	\$371.00 ea. X 24	=	\$8,904.00
Labor:	\$180.00 ea. X 2	=	<u>\$4,320.00</u>
	Total:		\$13,224.00

6 Urinals

Zurn Z5758 ultra low consumption urinal system with Ecovatage battery powered flush valve, uses 1/8 GDF with 85% water savings over standard 1GPF urinal

Material:	\$494.00 ea. X 6	=	\$2,964.00
Labor:	\$240.00 ea. X 6	=	<u>\$1,440.00</u>
	Total:		\$4,404.00

25 Water Closets

Sloan Uppercut dual-flush water conservation tune-up kit. Handle is green in color to inform the user it is for water conservation. Lift handle up initiates reduced flush(1.1 GPF) pushing handle down initiates normal (1.6 GPF), reduces water volume by up to 30% when activated upwards.

Material:	\$54.00 x 25 ea.	=	\$1,350.00
	\$60.00 x 13 ea.		
Labor:	2/hr.	=	<u>\$780.00</u>
	Total:		\$2,130.00

Ice Arena

10 4"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery-powered with .5 GPM aerator

Material:	\$329.00 ea. X 20	=	\$3,290.00
Labor:	\$180.00 ea. X 10	=	<u>\$1,800.00</u>
	Total:		\$5,090.00

6 8"-spread lavatory faucets

Zurn Model Z6915 Aquasense battery-powered with .5 GPM aerator and 8" cover plate

Material:	\$371.00 ea. X 6	=	\$2,226.00
Labor:	\$180.00 ea. X 6	=	<u>\$1,080.00</u>
	Total:		\$3,306.00

11 urinals

Zurn Z5758 ultra low consumption urinal system with Ecovantage battery powered flush valve, uses 1/8 GPF with 85% water savings over standard 1GPF urinal

Material:	\$494.00 ea. X 11	=	\$5,434.00
Labor:	\$240.00 ea. X 11	=	<u>\$2,640.00</u>
	Total:		\$8,074.00

16 WaterClosets

Sloan Uppercut dual-flush water conservation tune-up kit. Handle is green in color to inform the user it is for water conservation. Lift handle up initiates reduced flush (1.1 GDF) pushing handle down initiates normal (1.6 GPF), reduces water volume by up to 30% when activated upwards.

Material:	\$54.00 x 16 ea.	=	\$864.00
	\$60.00 x 8 ea.		
Labor:	2/Hr	=	<u>\$480.00</u>
	Total:		\$1,344.00

Facility Totals

CRCE

Total Material CRCE:	\$13,876.00
Total Labor CRCE:	\$6,900.00

ARC

Total Material ARC:	\$30,284.00
Total Labor ARC:	\$15,960.00

Ice Arena

Total Material Ice:	\$11,814.00
Total Labor Ice:	\$6,000.00

Total DCR Material:	\$55,974.00
Total DCR Material:	\$28,860.00
Total Project Cost	\$84,834.00

The proposed project can further be separated for total cost by each line item; Faucet replacement, Urinal replacement or Dual-flush valve replacement.

62-4" spread lavatory faucets	\$31,558.00
38-8" spread lavatory faucets	\$20,938.00
32-urinals	\$23,488.00
105-water closets	\$8,850.00

Campus Recreation is committed to reducing our water consumption in our restroom areas. There has been little effort to find alternative sources of funding for this project to date, but we are investigating what will be available. If this project were not funded, we would have to do a full evaluation of all our outstanding projects, so we would be pursuing the most beneficial project first. Our long term plan would include this project if it were not done this fiscal year.

III. Timeline:

Campus Recreation plans to have this project completed by August 21st, 2009. There are some elements of this project that require overtime and/or off hour work to be done, particularly in the women's locker rooms.

IV. Energy, Environmental, Social and Economic Impact:

Our project return varies greatly between building and fixture replacement but our overall yearly impact would be significant.

	Gallons saved per year	Cost of fixtures and Installation	Dollars saved per year	Years to Full Return
ARC				
4" Sink Faucets	1055700	\$25,450.00	\$1,974.16	12.89
8" Sink Faucets	1055700	\$4,408.00	\$1,974.16	2.23
Pint Flow Urinals	1304100	\$11,010.00	\$2,438.67	4.51
Dual-Flush Valve	556416	\$5,376.00	\$1,040.50	5.17
CRCE				
4" Sink Faucets	765000	\$1,018.00	\$1,430.55	0.71
8" Sink Faucets	765000	\$13,224.00	\$1,430.55	9.24
Pint Flow Urinals	945000	\$4,404.00	\$1,767.15	2.49
Dual-Flush Valve	403200	\$2,100.00	\$753.98	2.79
Ice Arena				
4" Sink Faucets	214200	\$5,090.00	\$400.55	12.71
8" Sink Faucets	214200	\$3,306.00	\$400.55	8.25
Pint Flow Urinals	396000	\$8,074.00	\$740.52	10.9
Dual-Flush Valve	799200	\$1,344.00	\$1,494.50	0.9
	6,438,816	\$84,804.00	\$15,845.84	

Only one Faucet value for Gallons saved per year is valid per building. Removed during calculation.

For the year of 2008, the ARC, CRCE, and Ice Arena combined used 18,407,000 gallons of water so the projected savings of 6,438,816 would be a 34% reduction from the previous year. Because the ARC was not open for half of that year, it would be more reasonable to project a 18-22% reduction in water use for 2009.

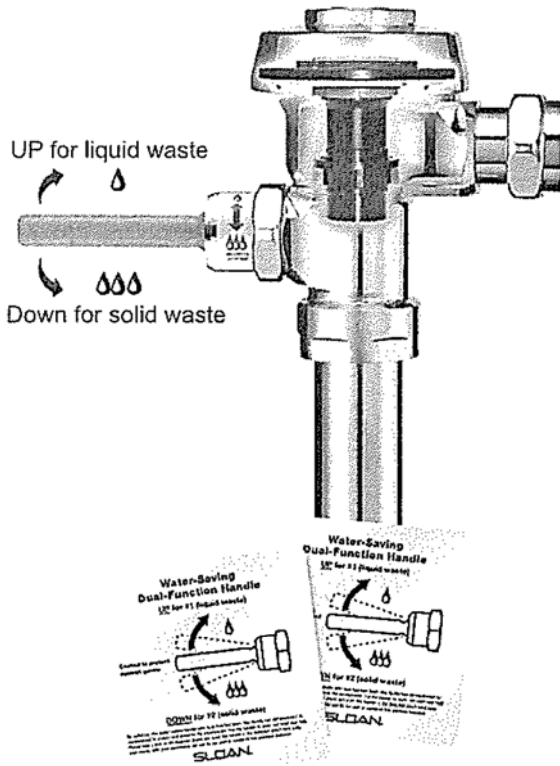
V. Outreach and Education:

Campus Recreation actively promotes their green projects. The bathroom remodel would allow us to showcase water reduction in a way that is meaningful to the student, and is fiscally responsible. Educational material will accompany all of our upgrades explaining what the devices are and their overall impact on our building function and the environment. This project will be very visible, and will be added to our green initiatives on our main website. We will continue to promote our efforts to make all of our buildings more energy efficient.

NEW

UPPERCUT™

The Fastest Way to Start Saving Water!



Water Conservation Tune-Up Kit

WES-213

Includes:

- Dual-Flush Handle
- Diaphragm Kit

Description

Dual-Flush Retrofit Handle and Dual Filtered 1.6 gpf/6.0 Lpf Diaphragm Kit for Exposed Water Closet Flushometers.

Specifications

Dual-Flush Retrofit Handle and Dual Filtered Diaphragm Kit for Exposed Water Closet Flushometers with the following features:

- Retrofits to most any existing valve
- Lifting Handle UP initiates reduced flush (1.1gpf/4.2 Lpf), eliminating liquid and paper waste, saving a ½-gallon of water
- Pushing Handle DOWN initiates full flush (1.6 gpf/6.0 Lpf), eliminating solid waste and paper
- Reduces water volume by up to 30% when activated UPWARDS
- Antimicrobial Coating on Handle protects against germ transmission
- ADA Compliant Metal Non-Hold-Open Handle with Triple Seal Handle Packing
- Distinctive Green Handle signifies Water Conserving Device
- PERMEX™ Synthetic Rubber Diaphragm with Dual Filtered Fixed Bypass (1.6 gpf/6.0 Lpf)
- Diaphragm and Handle Packing molded from PERMEX™ Rubber Compound for Chloramine Resistance
- Includes (2) adhesive backed Metal Wall Plates etched w/instructions

NOTES:

- NOT recommended for use on bowls with a flush volume greater than 1.6 gpf/6.0 Lpf.
- Does not include complete Flushometer valve. For complete valve, use Sloan Flushometer Models WES-111 or WES-115.



Patent Pending

This space for Architect/Engineer approval

The information contained in this document is subject to change without notice

SLOAN.

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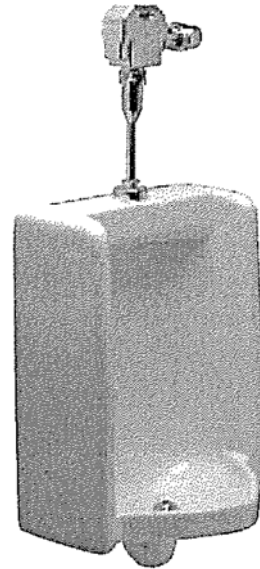
SLOAN VALVE COMPANY • 10500 SEYMOUR AVE. • FRANKLIN PARK, IL. 60131
Ph: 1-800-9-VALVE-9 or 1-847-671-4300 • Fax: 1-800-447-8329 or 1-847-671-4380

www.sloanvalve.com

Z5758 "The Retrofit Pint" 0.125 gpf Ultra Low Consumption Urinal System

Z5758 Series – "The Retrofit Pint"


- Zurn One ultra low consumption urinal system designed for optimal performance between Zurn fixture and Zurn flush valve to save water while exceeding industry performance standards.
- 1/8 gpf [0.5 Lpf]
- Over 85% water savings over standard 1.0 gpf [4.0 Lpf] system
- Pressure compensating internal flow regulator
- Oversized footprint to make retrofit easy
- Vitreous china
- High efficiency washout flushing action
- 3/4" top spud
- 2" I.P.S. outlet flange and rubber gasket with integral trap
- 14" extended rim height for handicap compliance when installed at proper height
- Shipping Weight: 72 lbs.



Engineering Specification

- Z5758.205.00 EcoVantage™ High Efficiency Battery-Powered Sensor Urinal System**
System comes complete with sensor-operated, battery-powered exposed ZEG6003EV high efficiency flushometer valve, control stop assembly, and vitreous china urinal. The system is designed to perform to industry standards with as little as 1/8 gallon per flush. Valve is operated by an infrared convergence-type proximity sensor with smart technology, powered by 4 "AA" batteries. Valve features an internal flow regulator to maintain constant flow rates independent of line pressures. Vitreous china urinal is supplied with 3/4" top spud, 2" outlet connection, and strainer assembly.
- Z5758.206.00 EcoVantage™ High Efficiency Hardwired Sensor Urinal System**
System comes complete with sensor-operated, hardwired exposed ZEG6003EV-HW high efficiency flushometer valve, control stop assembly,

Fixtures meet ASME A112.19.2 and CSA B45 standard requirements.

-  Meets the American Disabilities Guidelines and ANSI A117.1 requirements when urinal is installed 17" [432mm] from finished floor.

See Zurn One Systems for suggested packages.

Z5758 Series 1/8 gallon per flush "The RetroPint" EcoVantage™ flush valve urinal system.

and vitreous china urinal. The system is designed to perform to industry standards with as little as 1/8 gallon per flush. Valve is operated by an infrared convergence-type proximity sensor with smart technology, powered by 6 VDC plug-in or hardwired power converter. Valve features an internal flow regulator to maintain constant flow rates independent of line pressures. Vitreous china urinal is supplied with 3/4" top spud, 2" outlet connection, and strainer assembly.

Suffix Options

- UB2** Larger universal retrofit mounting bracket. Time saving urinal mounting bracket allows the urinal to be mounted to existing carrier studs and outlet piping without the need to make any adjustments behind the wall.

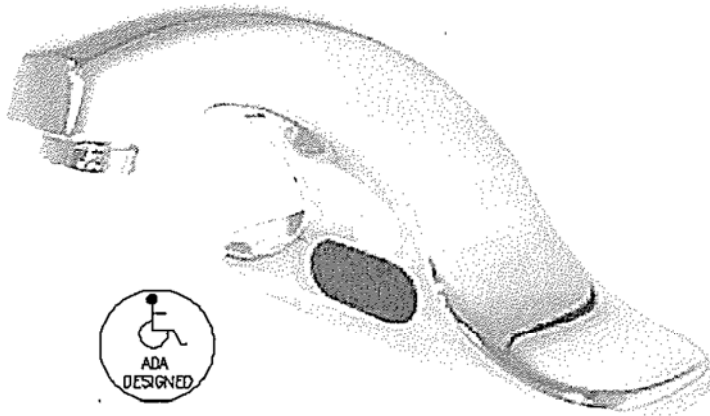
This Space is for Architectural/Engineering Approval



AquaSense®

TAG _____

AquaSense Sensor Faucet



Suffix Options (Check/Specify Appropriate Options)

- _____ -A 2.0 GPM Vandal Resistant Aerator
- _____ -C 2.2 GPM Laminar Flow Control
- _____ -F .5 GPM Vandal Resistant Aerator
- _____ -IA3 Inlet Adaptor (3/8"[10] compression)
- _____ -MJ Mini Junction Box
- _____ -MT Mixing Tee
- _____ -MV Temperature Mixing Valve
- _____ -PB Polished Brass PVD Finish
- _____ -SH Supply Hoses for Mixing Valve
- _____ -SSH Single Supply Hose
- _____ -TMV Thermostatic Mixing Valve for Multiple Faucets
- _____ -TMV-1 Thermostatic Mixing Valve for Single Faucets
- _____ Other

Z6915 AquaSense Battery Powered Faucet

ENGINEERING SPECIFICATION: The Z6915 sensor faucet is a battery powered sensor faucet with an integral four inch cover plate for retrofit and new construction. The faucet incorporates an infrared convergence-type proximity sensor into the chrome plated cast brass spout. The faucet is furnished complete with sensor module, spout module and in-line filter, 4 "AA" batteries, a 1.5 GPM vandal resistant aerator and an inlet for a 1/2"[13] ball riser supply hose. Sensor range is factory set for optimum performance.

Z6915-ACA AquaSense Plug-In Powered Faucet

ENGINEERING SPECIFICATION: The Z6915-ACA sensor faucet is a plug-in powered electronic sensor faucet with an integral four inch cover plate for retrofit and new construction. The faucet incorporates an infrared convergence-type proximity sensor into the chrome plated cast brass spout. The faucet is furnished complete with sensor module, spout module, in-line filter, a 1.5 GPM vandal resistant aerator, 6 VDC plug-in power converter and an inlet for a 1/2"[13] ball riser or supply hose. Also included are 4 'AA' batteries that provide battery backup power to the faucet during power outages. Sensor range is factory set for optimum performance.

Z6915-CWB AquaSense Hardwire Powered Faucet

ENGINEERING SPECIFICATION: The Z6915-CWB sensor faucet is a hardwired electronic sensor faucet with an integral four inch cover plate for retrofit and new construction. The faucet incorporates an infrared convergence-type proximity sensor into the chrome plated cast brass spout. The faucet is furnished complete with sensor module, spout module, in-line filter, a 1.5 GPM vandal resistant aerator, connecting wire to power converter and an inlet for a 1/2"[13] ball riser or supply hose. Also included are 4 'AA' batteries that provide battery backup power to the faucet during power outages. Sensor range is factory set for optimum performance.

NOTE: For Hardwire applications furnish P6900-HW6 power converter. The P6900-HW6 will power up to 8 sensor faucets. Order P6900-HW6 power converter seperately.

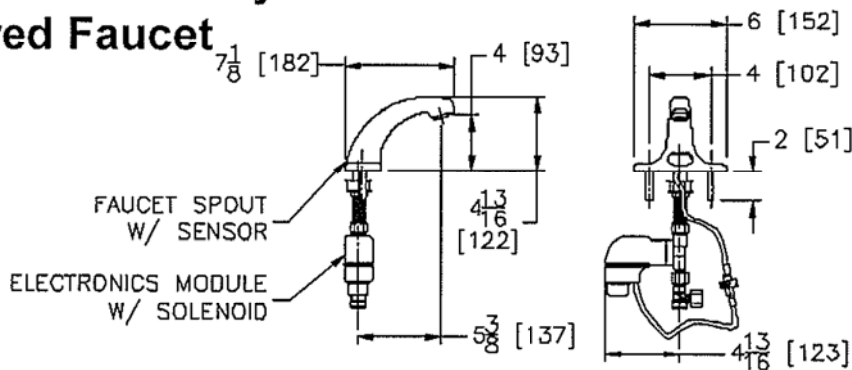
All polished brass (PVD) products come with a limited lifetime warranty on the finish.

ZURN INDUSTRIES, INC. ♦ COMMERCIAL BRASS OPERATION ♦ 5900 ELWIN BUCHANAN DRIVE ♦ SANFORD NC 27330

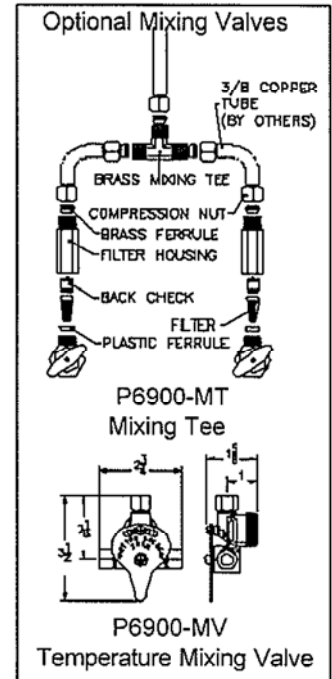
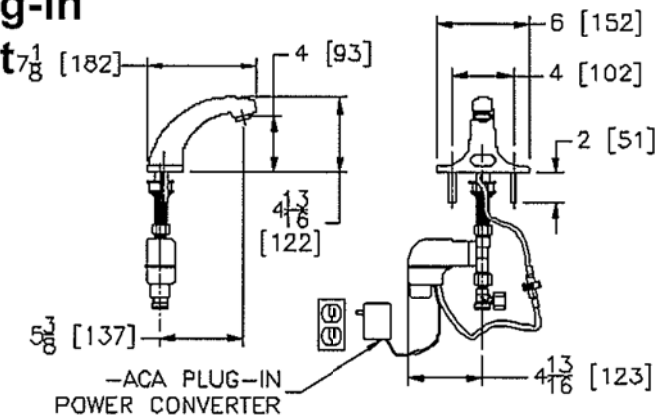
Phone: 1-800-997-3876 ♦ Fax: 919-775-3541 ♦ World Wide Web: www.zurn.com

In Canada: ZURN INDUSTRIES LIMITED ♦ 3544 Nashua Drive ♦ Mississauga, Ontario L4V1L2 ♦ Phone: 905-405-8272 Fax: 905-405-1292

TYPICAL Z6915 AquaSense Battery Powered Faucet

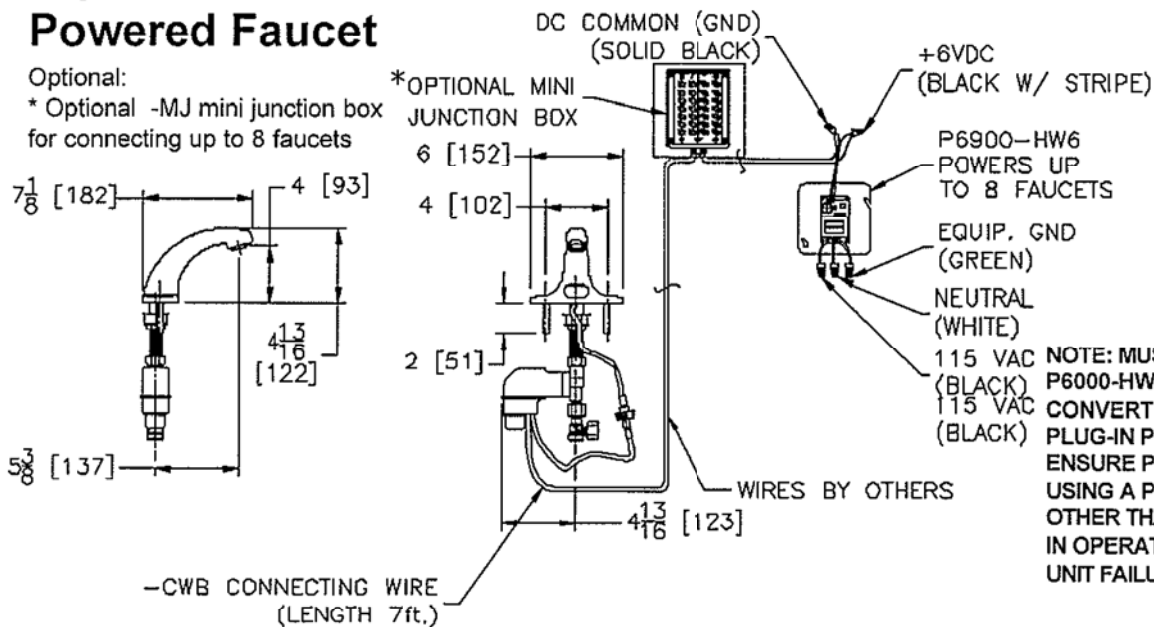


TYPICAL Z6915-ACA AquaSense Plug-In Powered Faucet



TYPICAL Z6915-CWB AquaSense Hardwire Powered Faucet

Optional:
* Optional -MJ mini junction box for connecting up to 8 faucets



ZURN INDUSTRIES, INC. ♦ COMMERCIAL BRASS OPERATION ♦ 5900 ELWIN BUCHANAN DRIVE ♦ SANFORD NC 27330
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