

**2012-2013 GREEN RFP PROGRAM  
STUDENT ORGANIZATION SUSTAINABILITY INITIATIVE FUNDING PROPOSAL**

**Part I- General Information:**

<b>Name of Student Organization</b>	Environmental Coalition
<b>Contact/Responsible Person</b>	Erica Largen, Dan Angelelli
<b>Contact Office Held/Title</b>	President, Active Member
<b>Contact Email Address</b>	Erica15@vr.edu, Dangel@vt.edu
<b>Contact Telephone Number</b>	276-730-4786, 704-654-7586

**Part II- Project Cost Information**

Estimated Cost of this Proposal	\$15,115.70	See III.C. below
Estimated Savings -	\$48	See III.D. below
<b>Net Cost of this Proposal =</b>	<b>\$15,107.70</b>	

**Part III- Supporting Information**

**A. Please describe your sustainability initiative and attach supporting documentation.**

There has been a marked move by consumers from non-renewable to renewable consumption as sustainability has moved to the forefront of consumers' minds. Here at Virginia Tech that can easily be seen as more and more students opt for reusable water bottles rather than plastic single use containers. This shift has led students to look for places to refill these bottles, but unfortunately our campus is lacking in convenient and accessible water bottle refilling stations. While our campus has water fountains in most buildings, the water fountains are not convenient for refilling water bottles. We seek to fill this need by requesting water bottle refilling stations to be located strategically throughout campus.

Plastic water bottles are inherently wasteful as they are single use items, which are typically used once and hopefully recycled, but often thrown away. Discarding plastic bottles in recycling or trash still poses a recurring cost to the University. Refill stations need only initial funding and then very low maintenance costs to follow. Working to reduce the amount of waste from plastic water bottles will help decrease the amount of waste the University produces and the costs associated with that waste.

The proposed locations for these refill stations are in War Memorial Hall fitness center; a place where students exercise and typically consume more water than other buildings. Therefore, the potential to reduce disposable bottle consumption is greater in a fitness facility than anywhere else on campus.

This proposal requests five (5) EZH20 Water Bottle Refilling Stations in five prime locations of War Memorial Hall.

There are already Water Bottle Refilling Stations located in the Donaldson Brown Graduate Life Center, the Squires student center, Newman library as well as throughout McComas Hall. These refilling stations are used by many students on a regular basis.

This proposal requests Virginia Tech buy four (4) Elkay EZH20 Refilling Station model ELZSTL8WSSK for four locations 1-4 listed below and one (1) Elkay EZH20 Refill Station model EEZWSRK for retrofitting location 5 listed below (see attachment A for EZH20 model specifications). Coordination has been done with the Assistant Director of Facilities and Informal Recreation, David Shuster. He is extremely supportive of this initiative and explained his department will promote these stations through efforts of their marketing staff, including print, web, and social media to maximize their impact.

**Locations:**

1. First Floor Hallway outside Gymnasium 125
2. First Floor Hallway outside Gymnasium 141
3. Ground Floor Hallway outside Fitness Center, Room 28
4. Ground Floor Hallway outside Pool
5. Ground Floor Inside Weight Room 36

\*See attachment B for photos detailing the five locations.

\*A new duplex outlet may be required for location #3 due to the existing outlet within 2'.

\*See attachment C for price estimation

**2012-2013 GREEN RFP PROGRAM  
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**B. How does this initiative help to achieve the goals of the Virginia Tech Climate Action Commitment Resolution and Sustainability Plan?**

Section 5 B.3 of the Climate Action Commitment Resolution it clearly calls for the University to "Add filtered water refilling stations for water bottles in student centers".

"Making water-refilling stations available will encourage the use of reusable containers over purchasing bottled water for students, faculty, and staff. It can also be paired with an education campaign to let students know the benefits of reusing containers. Reusing a container for water is much better than using individually bottled water, even if the container is recycled. This initiative will significantly reduce bottled water use and waste."

One objective of the Climate Action Commitment is to, "enhance Virginia Tech's sustainability programs and culture."

To become an exemplar in Sustainability a change to "smart and sustainable behavior and investment" must occur. Not only will Water Bottle filling stations in War Memorial Hall help to achieve this objective, they will uphold CAC resolution #10 that, "Virginia Tech will engage students, faculty and staff through education and involvement to reduce consumption of energy, water, and materials in academic and research buildings, dining and residence halls, and other facilities," (pg.12) though a counter that displays the quantity of bottles saved from the landfill.

In America, an estimated 38 million plastic bottles are added to landfills annually. The proposed water bottle filling stations offer incentive and convenience for students to carry reusable water bottles by filling bottles quickly and creating a "feel good" response in the user when the counter adds one to, "bottles saved from landfill". Each day hundreds of active students attend classes, practice sports, workout and more in War Memorial Hall. Water bottles are filled slowly, with outdated conventional water fountains, encouraging students to bring plastic water bottles to each workout. We believe water bottle filling stations will reverse this trend. The counter on each water bottle filling station will uphold the long-term plan for a sustainable future on page 93 of the Climate Action Commitment which, "depends on the internal will of students, staff and faculty to adopt smart, less wasteful patterns of material and energy use..."

Page 56 of the Climate Action Commitment outlines the first midterm prospective action for Virginia Tech recycling "to reduce waste generated per student/employee." Water bottle filling stations do this by encouraging long-term reduction in the number of plastic water bottles individuals using War Memorial Gym throw away.

These water bottle filling stations will prevent more plastic from bottles going into landfills and will reduce in carbon dioxide emissions in production and distribution of plastic water bottles. Solution #4 to achieve the goals of the CAC on page 16 recommends implementing, "Measures to procure low life-cycle cost products, to recycle materials, and to reduce water, wastewater, and landfill waste, all of which save energy and GHG emissions."

Implementing these water bottle filling stations will provide engagement education to the campus community to reduce waste generated and reduce greenhouse gas emissions.

**C. What is the cost of your proposal? Please describe in adequate detail the basis for your cost estimate.**

<b>Model</b>	<b>Units Requested</b>	<b>Price Per Unit</b>	<b>Total</b>
Elkay EZH20 ELZSTL&WSSK	4	\$1201.750	\$4,807.00
Elkay EZH20 EEZWSRK	1	\$348.700	\$348.70
<b>Sub-total</b>			<b>\$5,155.70</b>
<b>Installation</b>	-	<b>\$10,000</b>	<b>\$10,000</b>
<b>Total</b>			<b>\$15,115.70</b>

See Attachment C for the unit price estimate. The Office of Energy and Sustainability and Facilities Services has verified the installation cost. Total installation cost for all five filling stations is \$10,000.

Total project cost (unit cost + installation cost) is \$15,115.70.

**2012-2013 GREEN RFP PROGRAM  
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D. Will your proposal produce cost savings for the University? If so, how much? Please describe in adequate detail the basis for your savings estimate.

It is hard to know with much amount of accuracy the amount of savings from reduced costs in recycling and waste removal.

However, the water filling stations in Squires Student Center and Newman Library were installed in the late spring semester of the 2011-2012 school year. The digital counter on these stations was an average of 11929 bottles per station as of October, 2012. This number documents 5 months of plastic reduction for one water bottle station. Dividing this by five, the monthly reduction per station is 2386. Extrapolating this data to one school year (9 months), one water bottle filling station diverts approximately 21472 plastic bottles from the landfill in a school year, plus any usage from summer months. Assuming this load for all five filling stations, the project will prevent 107360 water bottles from entering the waste stream in one 9 month school year, plus (uncounted) summer usage.

$$[(11,929 \text{ bottles}) / (5 \text{ months})] * (9 \text{ months}) = 21,472 \text{ bottles per station}$$

$$(21,472 \text{ bottles per station}) * (5 \text{ stations}) = 107,360 \text{ bottles}$$

According to the International Bottled Water Association's website, the average gram weight of the 16.9 ounce "single serve" bottled water container is 12.7 grams. The weight of the plastic bottles not used from one water filling station is 272,697 grams per school year. The total weight in grams of the plastic bottles not used from all five proposed water filling stations in one school year is 1,363,472 grams. There are 907,185 grams in a ton. Thus the weight in tons is 1.5 tons per school year.

$$(21,472 \text{ bottles per station}) * (12.7 \text{ grams}) = 272,697 \text{ grams}$$

$$(107,360 \text{ bottles}) * (12.7 \text{ grams}) = 1,363,472 \text{ grams}$$

$$(1,363,472 \text{ grams}) / (907,185 \text{ grams per ton}) = 1.5 \text{ tons}$$

The university pays \$32 a ton for recycling bottles & cans. Each year the university will save \$48. This savings should be expected to increase as the trend toward using reusable water bottles because convent infrastructure increases.


$$(\$32) * (1.5 \text{ tons}) = \$48$$

E. Is this funding request an Ongoing or One-Time change (please check one)?

One-time

F. Is funding available for this request from another source? If yes, describe the funding (source, amount, etc.)  
No other funding is available for this project.

**Part IV - Requestors/Reviewers**

Prepared By	(Date)
Erica Largen, Dan Angelelli; Environmental Coalition at VT	10/31/2012
Reviewed By (Name of Office of Energy and Sustainability Representative)	(Date)
	OCT 31, 2012

# ELKAY<sup>®</sup> SPECIFICATIONS

## EZH20™ System Cooler/Bottle Filling Station Models EZS8WS and EZSTL(R)8WS

### PRODUCT FEATURES

- Complete cooler and bottle filling station in a consolidated space saving ADA compliant design
- Sanitary, no-touch, sensor activation with automatic 20-second shut-off timer
- Flexi-Guard<sup>®</sup> or Vandal-Resistant StreamSaver™ Bubbler
- Silver Ion anti-microbial protection
- Quick fill rate is 1 gpm for refrigerated units and 1.5 gpm for non-refrigerated units
- Laminar flow provides minimal splash
- Real drain system eliminates standing water
- Visual user interface display includes:
  - Green Ticker™ counting the quantity of bottles saved from the landfill

Unit shall provide 8.0 gph of 50° F water at 90° F ambient and 80° F inlet water. Bottle filling unit shall include an electronic sensor for no-touch activation with an automatic 20-second shut-off timer. Shall include bottle counter. Shall provide 1-1.5\* gpm flow rate with laminar flow to minimize splashing. Shall include antimicrobial protected plastic components to prevent mold and mildew. Cooler shall include pushbar- activation and water-efficient StreamSaver™ bubbler.

Bottle Filling unit shall meet ADA guidelines for parallel approach. Cooler shall meet ADA guidelines for frontal or parallel approach. Unit shall be lead-free design which meets Safe Drinking Water Act and is certified to NSF/ANSI 61 and California AB1953. Unit shall be certified to UL399 and CAN/CSA 22.2 No. 120.

### SUGGESTED SPECIFICATION

\*Fill rate may vary slightly depending on existing refrigeration systems in the field

2222 Camden Court      Phone: 630-572-3192  
Oak Brook, IL 60523      Web: Elkayusa.com



### Third Party Certified to:

- UL399 and CAN/CSA 22.2 No. 120
- Lead-free compliance including NSF/ANSI 61 and CA AB1953

### IMAGES

Model EZS8WSLK shown.  
Includes Single Cooler  
with Bottle Filling Station.



Model EZSTL8WSLK shown.  
Includes Bi-Level Cooler with  
Bottle Filling Station.



- Vandal-resistant StreamSaver™ Bubbler
- 36292C Receptacle Adaptor Plug

### OPTIONAL ACCESSORIES

#### Ideal for use in:

- Educational facilities
- Healthcare facilities
- Sport and fitness centers
- Airports
- Office buildings
- Other commercial buildings

### APPLICATIONS

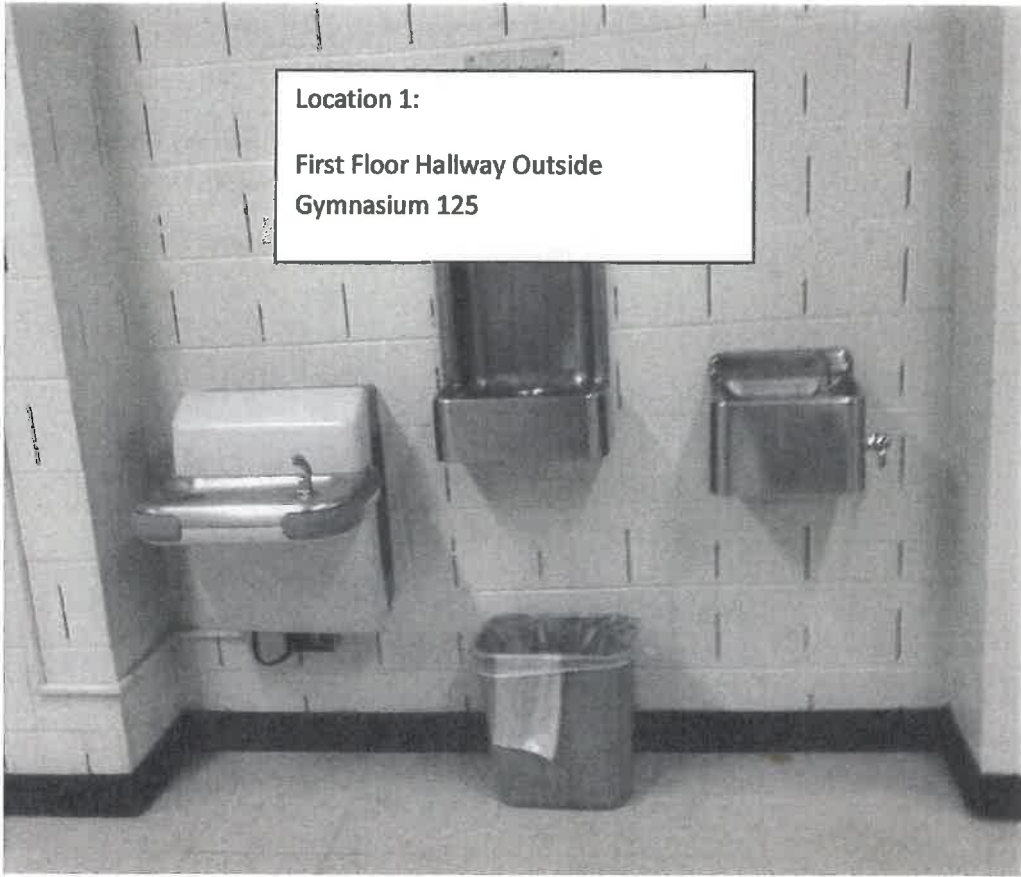
*In keeping with our policy of continuing product improvement, Elkay reserves the right to change specifications without notice.  
Please visit [elkayusa.com](http://elkayusa.com) for the most current version.*

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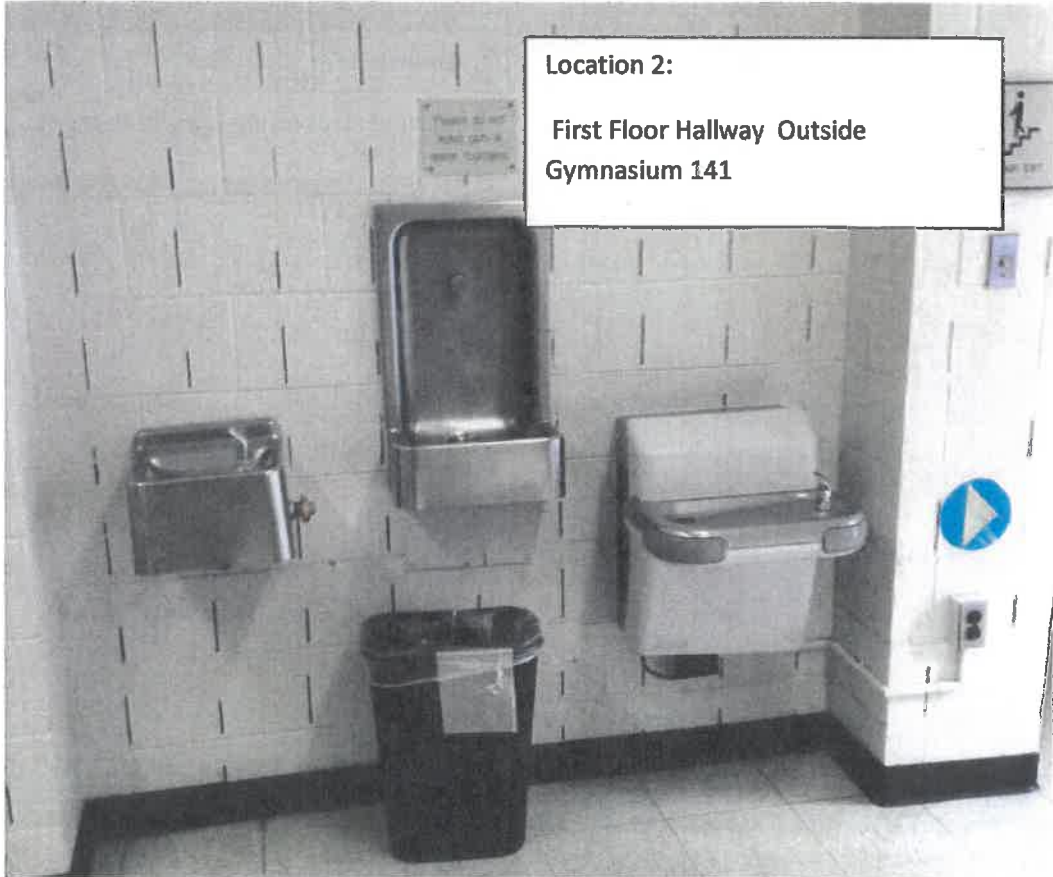
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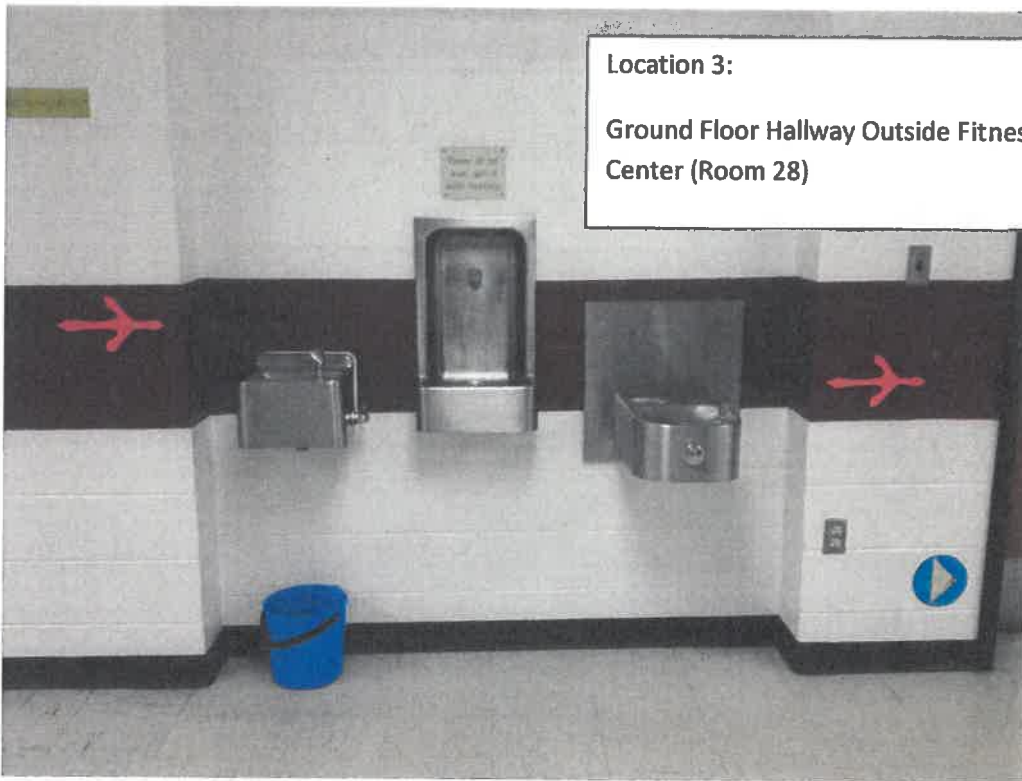




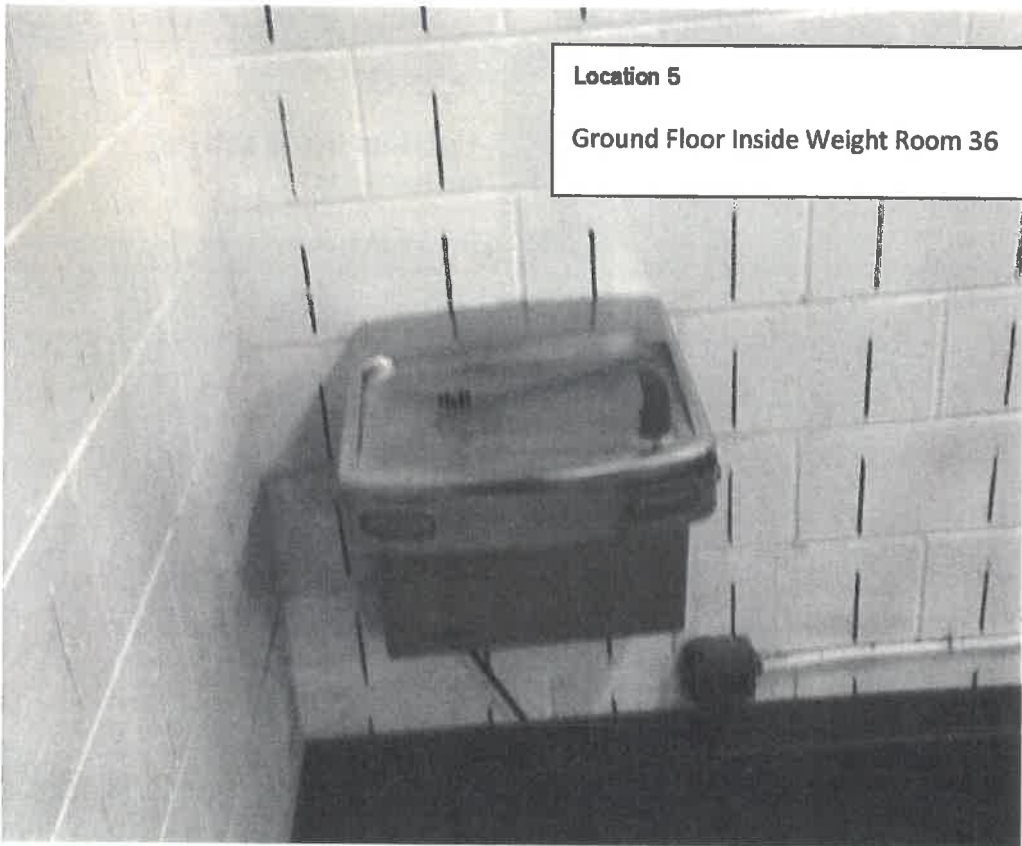
**Location 1:**  
**First Floor Hallway Outside**  
**Gymnasium 125**



**Location 2:**  
**First Floor Hallway Outside**  
**Gymnasium 141**



**Location 3:**  
**Ground Floor Hallway Outside Fitness Center (Room 28)**



**Location 5**  
**Ground Floor Inside Weight Room 36**



**Location 4**

**Ground Floor Hallway Outside Pool**

**Schedule of Proposed Water Bottle Filling Station Upgrades, WMH**

Location	Upgrade	Product	
1	Replace existing combo with Bil-Level Combo	Elkay EZH20 ELZSTL8WSSK	
2	Replace existing combo with Bil-Level Combo	Elkay EZH20 ELZSTL8WSSK	
3	Replace existing combo with Bil-Level Combo	Elkay EZH20 ELZSTL8WSSK	New duplex outlet may be required; existing outlet within 2'
4	Replace existing combo with Bil-Level Combo	Elkay EZH20 ELZSTL8WSSK	
5	Retrofit Station to existing cooler	Elkay EZH20 EEZWSRK	