EcoDepot

WATER QUALITY PRODUCTS & SERVICES

pH WatchDog™

Water Treatment System Manual

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pH Watchdog™ Overview

A recurring problem encountered by Ready Mix Concrete facilities is discharge waters with high pH levels. The innovative technology from the pH Watchdog™ is for use at industrial sites (mainly concrete plants) where NPDES (National Pollutants Discharge Elimination Permit) permits require elimination of discharge waters from an unacceptable high level, to an acceptable level for discharge, typically in a range of 6.0 to 9.0. The design and implementation of the system provides maximum efficiency and safety, and minimum costs and labor.

Prior to discharge, the storm or waste water is confined to a holding area where the pH of the water is detected by way of an electronic probe located within the water. A pH controller is preset by the operator to activate a submersible water pump when the pH level is detected out of the preset range. The high pH water is piped into a storage tank, where dry Sodium Bisulfate is introduced to neutralize the discharge water. The mixed solution is released into the holding area where the pH reading is taken. As acceptable pH levels are reached, the controller shuts off the pump.

The pH Watchdog™ is innovative in its simplicity. Current methods of reducing pH of discharge waters utilize hazardous chemicals-making it very dangerous, costly and labor-intensive, and require constant maintenance. The pH Watchdog™ uses Sodium Bisulfate, a non-hazardous product that readily dissolves in water to form a weak acid solution. Annual labor, material and maintenance costs associated with the pH Watchdog™ are considerably lower than that of conventional methods now being used.

Common methods of pH reduction in use today utilize hazardous chemicals, namely sulfuric acid, which are dangerous to handlers and require layered protective gear when being handled. Sodium Bisulfate, used on the pH Watchdog™ is a non-hazardous, environmentally friendlier material that dissolves in water to form a weak acid solution when incorporated into the pH reduction process. It is a moderate irritant to the skin and if spilled, thorough flushing with water will treat the contact area in most cases (Jones-Hamilton Co. Newark, CA; Manufacturer of Sodium Bisulfate). This material is an off-the-shelf product that is commonly sold as a pool chemical to reduce pH. The use of Sodium Bisulfate allows industrial plant managers to adhere to the requirements of their NPDES permits and any additional local and state requirements in an environmentally sound, worker friendly and cost effective manner.

pH WatchDog ™

Included in this manual is material on system installation, wiring, calibration and trouble shooting.

NO MORE HAZARDUS CHEMICALS

The pH WatchDog ™ starts by using a non hazardous chemical (Sodium Bisulfate) which is classified as an irritant rather than a hazardous material. The chemical comes in a dry acid form rather than a liquid which makes it safe to handle and easy to clean up and ultimately increases plant safety.

NO MORE TRYING TO FIND TIME

The System automatically controls pH which takes very little time out of your schedule and allows you to concentrate more on your concrete production. The system is simple to operate and monitors your plants discharge at all times, which means you don't have to. A simple 10 minute check once a day is all it takes.

MEET EPA REGULATED DISCHARGE LIMITS

The pH WatchDog ™ automatically controls the pH of your plants waste water. When the system detects a non-compliant pH (typically above 9.00) the system automatically begins to lower the pH level by adding Sodium Bisulfate to your treatment area. Once the system detects a compliant and satisfactory pH level the system will stop treatment until needed again. This will allow your plants discharge to stay at a compliant level (typically between 6.00 & 9.00) without taking time away from you. This is a cost effective and worker friendly method of staying within the requirements of your NPDES permits.

WATER QUALITY PRODUCTS & SERVICES

Maintenance

The pH Watchdog™ was designed for the purpose of saving time and money. In the ready mix industry time is money and the less time spent on waste water issues, the more time can be spent on plant production.

It is recommended that a 10 minute daily inspection take place and a simple calibration at least once a week for optimum performance from the pH WatchDog ™. Item specifics are as follows…

Daily:

- Start with a general inspection of the entire system. Ensure everything is in place and the system is working as designed.
- View and record the pH according to the pH controller to ensure the system is working efficiently.
- Inspect the storage drum and add Sodium Bisulfate if necessary.
- Inspect the treatment area for sediment build up and clean if necessary.
- Remove and note the condition of the electrode and clean if necessary with the supplied cleanser. (*Note: Do not allow the electrode to remain dry for an extended period of time for it may crystallize and damage*).
- Inspect the submersible pump and all piping for proper operation and to ensure no debris is present.

Weekly:

- Start with a general inspection of the system and inspect all items that you would during a daily inspection.
- Calibrate the system using the supplied pH solutions and cleanser. (*See the Calibration Guide located in this section for precise instructions*).
- Remove the drain plug located on the front bottom corner of the spill pallet to release any rain water that may have accumulated.
- Inspect the high and low limits on the pH controller to ensure they are correct for optimum performance from the system.

If a problem is discovered refer to the Trouble Shooting Guide located in your System Manual. If problems persist, please contact EcoDepot for assistance.

pH WatchDog ™ Maintenance Checklist

The following checklist should be used as a guide when performing the recommended daily & weekly maintenance tasks for optimum performance from the pH WatchDog ™ system. This is to be printed and copied for personnel use.

Daily Checklist

- ☐ Overall inspection of system
- ☐ Inspect the pH controller and record the current pH
- ☐ Inspect the amount of acid and add if necessary
- ☐ Inspect treatment area and clean if necessary
- ☐ Remove, inspect and clean the pH electrode
- ☐ Inspect the pump and test the operation
- ☐ Inspect spill pallet for damage or leakage
- ☐ Inspect all piping for damage or leakage
- ☐ Inspect all wiring for damage
- ☐ Inspect all electrical components for damage
- ☐ Inspect storage drum for damage or leakage
- ☐ Inspect the control enclosure for damage or leakage

Weekly Checklist

- ☐ Overall inspection of the system including everything included in a daily inspection
- ☐ Calibrate the pH system
- ☐ Remove drain plug and rid the spill pallet of any collected rain water
- ☐ Inspect the high/low limits and adjust if necessary
- ☐ Test treatment and discharge areas with handheld meter to ensure proper operation

WATER QUALITY PRODUCTS & SERVICES

Daily pH Log

DATE	TIME	WEATHER	pH READING	COMMENTS	SIGNAURE

CALIBRATING THE pH METER SUBSYSTEM

PREPARATION:

A pH 7.00 fluid is needed to set the CALIB (A), a pH 10.00 fluid is required to set the SLOPE (B), plus clean water is needed to rinse the electrode between calibration solutions. Always make sure you disconnect the pump before beginning.

CALIBRATION:

1. Set the display mode switch (C) to the central position (read). The pH LED (lower left) should be illuminated.

2. Note the condition of the electrode and clean if required.

3. Rinse the electrode with room temperature water taking cares to remove any accumulated concrete slurry. Gently shake the electrode to remove any clinging drops of water.

4. Immerse the tip (bottom 1 inch) of the electrode into the pH 7.0 calibration solution. It is important to use the 7.0 solution first. Be sure that the tip of the probe is fully immersed in the calibration fluid for a stable and reliable result.

5. Keeping the glass bulb immersed, gently swirl the ends of the electrode in the calibration solution until the pH reading stabilizes. If the electrode is in good condition, the reading should stabilize in a few seconds. If the electrode does not easily stabilize, this may be a sign that the electrode is in need of cleaning or should soon be replaced.

6. Adjust the CALIB (A) screw to bring the displayed pH to about 7.0.

7. Remove the electrode from the pH 7.0 calibration solution and rinse it with room temperature water. Gently shake the electrode to remove any clinging drops of water.

8. Immerse the end of the electrode into the pH 10.0 calibration solution. Swirl the end of the electrode in the fluid until you obtain a stable reading, and then adjust the SLOPE (B) screw until the display shows 10.0.

9. Again, rinse the electrode with room temperature water and shake any clinging drops.

10. Re-immerse the electrode in the pH 7.0 calibration solution and now repeat steps 6-7-8 until the display shows 7.00 in the pH 7.0 calibration solution and 10.00 in the pH 10.0 calibration solution.

11. Rinse the electrode and return it to service in your system. Remember that the sensitive glass bulb of the electrode must not be allowed to dry out.
(Note: Please refer to the controller diagram on the next page if needed)

ADJUSTING THE CONTROLLER SET-POINTS

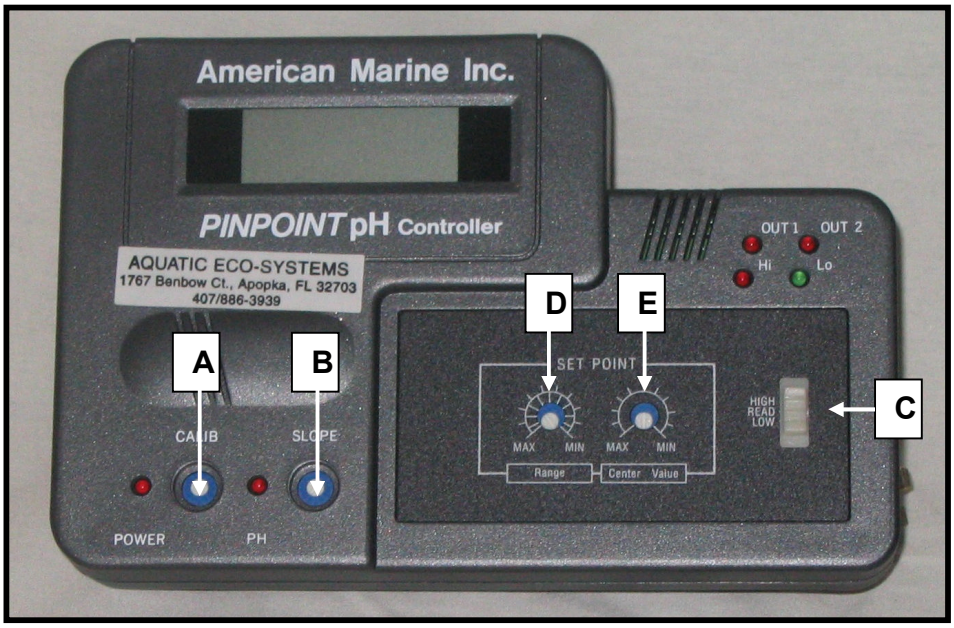
1. Determine the "Center Value" that you wish to establish and the range around this center value you feel is acceptable (between +/- 0.1 and 1.0 pH units).

2. It is suggested that you start out using 1.0 pH units as the "Range" and 8.0 pH units as the "Center Value".

3. The RANGE pot (D) will be fully counter clock wise and the CENTER VALUE pot (E) will be set at 7.00 with the display mode switch (C) to the bottom position (LOW).

4. Each concrete plant has a different business need so a standard cannot be set, you will have to try different adjustments for the Center Value and Range until optimum performance is achieved.

For additional info on you pH Meter Subsystem, see the included Pinpoint pH Meter Manual.



pH WatchDog ™ Trouble Shooting Guide

- The pH WatchDog™ runs on a standard 120V electrical supply which is prone to failure from time to time as is any type of electrical system.
- In addition there are several individual electrical components within the system itself.
- The most common system failure is a tripped breaker. A tripped breaker can be due to several reasons, including electrical storms, excessive moisture, power overloads and other outside electrical issues.
- In addition to a total system failure you may experience individual failures, including the pH controller, electrode, pump, GFI, relay and any additional equipment or wiring. It is recommended to start by inspecting the system for the obvious.
- Performing a visual inspection of the system and all components may lead to the source of any possible issues.
- If no issues are discovered from a visual inspection and problems persist please refer to the included Trouble Shooting Guide.

If there are ever any issues please contact an EcoDepot employee and we will be glad to assist you.

pH Pinpoint Controller inoperative:

There are several reasons why the pH Pinpoint Controller is inoperative.

1. Inspect the electrical relay located in the gray enclosure box. If the relay has been damaged or is inoperative the system will not work properly. **First shut down all power to the pH WatchDog**. After doing so, remove the cover on the grey 4"x4"x4" electrical box located inside your control enclosure. Unplug the systems electrical relay found inside and inspect the prongs for any discoloring, burns or collapsing. If any of these are found on the relay then replace the relay and recheck the systems operation.

2. If the problem persists, check the GFI outlet. Reset the GFI by pushing the black (test) button and then the red (reset) button. If no problems are found at this point plug the pH Pinpoint Controller directly into a different power source. If the meter still does not come on then a new controller may be required. If the pH controller does come on through an alternative power source then refer to you pH WatchDog electrical diagrams and inspect for any internal wiring failures.

3. If the problem persists, contact EcoDepot for assistance with additional trouble shooting.

pH Electrode slow to calibrate or not calibrating:

There are several reasons why the pH electrode is slow to calibrate or will not calibrate at all.

1. Inspect the bulb at the lower end of the electrode for any damage, cracks, fogginess or debris. If the bulb does not appear to be damaged soak the electrode in a cleaning solution for several minutes and then carefully but thoroughly clean. The pH electrodes bulb should remain clear, clean and in some type of fluid at all times for proper performance. Never allow the electrode to dry up. If the problem persists then the electrode may need replacement.

Pump not coming on:

There are several possible reasons why the pH WatchDog pump is not coming on.

1. Inspect the electrical relay located in the gray enclosure box. If the relay has been damaged or is inoperative the system will not work properly. **First shut down all power to the pH WatchDog**. After doing so, remove the cover on the grey 4"x4"x4" electrical box located inside your enclosure box. Unplug the electrical relay found inside and inspect the prongs for any discoloring, burns or collapsing. If any of these are found on the relay then replace the relay and recheck the systems operation. If problem persists, inspect the pump itself.

2. If problem persists, inspect the pump itself. **Again, start by shutting down all power to the pH WatchDog.** After doing so, remove the pump and inspect for any damage or any debris which may cause the pump to lock up. If no problems are found at this point plug the pump directly into a different power source. If the pump still does not come on then a new pump may be required. If the pump does come on through an alternative power source then refer to you pH WatchDog electrical diagrams and inspect for any internal wiring failures. If problem persists, contact your regular electrician.

Complete loss of power to your pH System:

If all power is ever lost to your pH System start by check the breaker to see if it has been tripped. If no breaker has been tripped test the main power supply to see if any power is being received by the System. If no power is being supplied contact your local electrician to inspect for the problem. If power is being sent to the System inspect the systems GFI outlet. Refer to the electrical diagrams for the proper setup. Continue to refer to the electrical diagrams until the electrical problem is located.

If problems persist or additional assistance is needed please contact EcoDepot.

Sodium Bisulfate (SBS) Dry Acid

Sodium Bisulfate (SBS) is an odorless, colorless non-hazardous dry acid which is labeled as an irritant rather than sulfuric or hydrochloric acids which are labeled hazardous. In addition SBS only activates when placed in solution and once in solution does not become hot or fume like sulfuric or hydrochloric acid. SBS only carries a moderate health rating and has no rating for flammability and reactivity. This is by far the safest method of treating high alkaline waste water. In addition, SBS is packaged in 50-pound bags for your convenience with storage and handling.

Safety Measures:

- Store SBS in a cool, dry and ventilated location since SBS is activated by moisture and can melt in temperatures exceeding 58C (136F).
- If an accidental release or spill occurs remove and recycle as much as possible and place any remaining remnants in a suitable container.
- When handling SBS avoid prolonged contact and exposure. See below for necessary first aid measures.
    - Skin Contact: Thoroughly flush contact area with water.
    - Inhalation: Remove to fresh air. If breathing is difficult, give oxygen and seek medical attention.
    - Ingestion: DO NOT INDUCE VOMITING. Consume large quantities of water and seek medical attention.
    - Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

Please refer to the Material Safety Data Sheet (MSDS) in this section for additional information.

Contact EcoDepot to reorder Sodium Bisulfate.

Sodium Bisulfate - Material Safety Data Sheet

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sodium bisulfate, anhydrous globular, technical Product Code: SBS01
Synonyms: Sodium acid sulfate, Nitre cake, Sodium hydrogen sulfate
Product Use: Cleaning compounds, pH adjustment
Date of MSDS Preparation: March 2002

Manufacturer's Jones-Hamilton Co. 24-Hour Emergency Phone Numbers [U.S.A.]:
Name/Address: 8400 Enterprise Drive
Newark, CA 94560
California: (510) 797-2471
Ohio: (419) 666-9838
-or-
30354 Tracy Road CHEMTREC: (800) 424-9300
Walbridge, OH 43465

Distributed By: EcoDepot, LLC

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Formula: NaHSO4

Component	CAS#	% (by weight)	Exposure Limits
Sodium bisulfate	7681-38-1	91.5 – 94.7	None established
Sodium sulfate	7757-82-6	4.8 – 8.0	None established
Moisture	7732-18-5	0.1 – 0.8	None established

OSHA: This material is classified as an irritant under current OSHA regulations.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Off-white granular material, with the consistency of salt. Presents little or no hazard if spilled and no unusual hazard if involved in a fire. However, keep out of streams and ditches.

Potential Health Effects:

EYE: Causes mild to severe irritation. May cause burn if not flushed with water.

SKIN: Prolonged exposure may cause moderate irritation. May cause burn if not flushed with water.

INHALATION: Inhalation of dust may irritate or burn nose, throat and lungs.

INGESTION: Small amounts (tablespoonful) swallowed are not likely to cause injury; however, swallowing large amounts may irritate or burn digestive tract.

CHRONIC (CANCER) INFORMATION: Not known to cause cancer. Not listed as carcinogen by IARC, NTP or OSHA.

TERATOLOGY (BIRTH DEFECT) INFORMATION: No data available.

REPRODUCTION INFORMATION: No data available.
POTENTIAL ENVIRONMENTAL EFFECTS: Material in dry form is not hazardous to the environment. However, readily dissolves in water to form a weak acid solution. Therefore, keep out of streams and ditches.

SECTION 4 - FIRST AID MEASURES

NOTE TO PHYSICIAN : Supportive care. Treatment based on judgment of the physician in response to reactions of the patient. May aggravate pre-existing respiratory conditions.

EYES:
Immediately flush eyes with water for at least 15 minutes, lifting eyelids to thoroughly flush. If redness or irritation persists, get prompt medical attention.

SKIN: Immediately flush affected area with water for at least 15 minutes. If burn occurs, seek immediate medical attention.

INHALATION: Remove to fresh air. If irritation or discomfort persists, seek medical attention.

INGESTION: If large amounts are ingested (greater than tablespoonful), drink large quantities of milk or water. Follow with Milk of Magnesia, beaten eggs or vegetable oil. DO NOT induce vomiting. Contact Physician immediately.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Not applicable. Material will not burn.

FLAMMABLE LIMITS: Not applicable. Material is non-combustible.

EXTINGUISHING MEDIA: Use extinguishing media appropriate for surrounding fire. Because material will readily dissolve in water to form a weak acid solution, avoid water contact with material if possible.

HAZARDOUS COMBUSTION PRODUCTS: At temperatures over 806O F (430° C), product will decompose generating oxides of sulfur.

FIRE FIGHTING INSTRUCTIONS: Product readily dissolves in water to form a weak acid solution. If using water, wear acid protective equipment. No gases or toxic fumes are emitted from this reaction. However, if elevated temperatures (> 806OF) are reached, self-contained breathing apparatus should be worn.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

LAND SPILL: Vacuum or shovel material and place in disposal container. Avoid excessive dust
generation. Dilute residual material with ample supply of water and direct to sanitary sewer if
Federal, State or Local regulations permit.

WATER SPILL: Readily dissolves in water to form a weak acid solution. If water is isolated or can
be contained, neutralize with weak alkaline solution.

Notify appropriate authorities if required by regulations.

SECTION 7 - HANDLING AND STORAGE

HANDLING: Wear all recommended personal protective clothing when handling. Avoid contact with eyes. Wash thoroughly after handling. Minimize dust generation. Avoid breathing dust.

STORAGE: Material is hydroscopic and will readily absorb moisture. Keep containers tightly closed. DO NOT store where exposed to moist conditions. DO NOT store near strong alkalis.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to maintain airborne particulate below nuisance levels (>10 mg/m ^{3}).

RESPIRATORY PROTECTION: In dusty atmospheres (>10 mg/m ^{3}), use a NIOSH-approved dust respirator.

SKIN PROTECTION: Rubber gloves and cotton-blend coveralls.

EYE PROTECTION: Safety glasses or goggles.

GENERAL HYGIENE CONSIDERATIONS: There are no known health hazards associated with this material when used as recommended. Follow good industrial hygiene practices including but not limited to: (1) wash hands after use and before eating; (2) avoid breathing dust; and (3) wear safety glasses.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Off-white granular material. ODOR: Fresh to Pungent

PHYSICAL STATE: Dry (Anhydrous) crystalline solid SOLUBILITY: 1080 g/l @ 68° F (20° C) spherical shape beads

MOLECULAR FORMULA: NaHSO4 PARTICLE SIZE: ±0.75 mm diameter
BULK DENSITY: 80 – 85 lbs/ft^3 (loose) MELTING POINT: 350° F (177° C)
PERCENT VOLATILE: Non-volatile MOLECULAR WEIGHT: 120

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable.
INCOMPATIBILITY: Avoid contact with strong alkaline material such as caustic. Dissolves readily in water to form a weak acid solution. DO NOT MIX with liquid chlorine bleach, ammonia cleansers or similar products.
CONDITIONS TO AVOID: DO NOT store dry product where exposed to moist conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Only if heated over 806O F (430° C), at which sulfur dioxide and sulfur trioxide are formed.
HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 - TOXICOLOGICAL INFORMATION

REPORTED HUMAN EFFECTS: No human data are available for this product.
REPORTED ANIMAL EFFECTS: Oral – LD50 (rat) 2800 mg/kg.

Skin irritation – This material is neither corrosive nor destructive to the skin of New Zealand rabbits. Occasionally, a very slight

rash may appear.

SECTION 12 - ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: This product readily dissolves in water to form a weak acid solution. A 0.05 percent or greater (by weight) solution of this product will likely be acutely harmful to fish and other water organisms.

CHEMICAL FATE INFORMATION: Material will decompose in soil. Studies show that there are no adverse effects of applying the main ingredient in this product (sodium bisulfate) directly to crops. In fact, there are existing products on the market that use sodium bisulfate as a soil additive to improve crop production. However, do not apply excessive quantities to soil.

SECTION 13 - DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as
defined under the Resource Conservation and Recovery Act (RCRA), 40 CFR Part 261. Dispose of in accordance with local, State and Federal laws and regulations.

SECTION 14 - TRANSPORT INFORMATION

DOMESTIC (Land, Department of Transportation): Not regulated.
International (Water, IMO): Not regulated. International (Air, ICAO & IATA): Not regulated. Shipment in Canada: Not regulated. Surface Shipments in Europe: Not regulated.

SECTION 15 - REGULATORY INFORMATION

OSHA: This product is classified as an Irritant by definition of Hazard Communication Standard (29
CFR 1910.1200).

HMIS Rating: Health – 1; Flammability – 0; Reactivity – 1; Protective Equipment – F

NFPA Rating: Health – 1; Flammability – 0; Reactivity – 1; Special Precautions – None

TSCA: Listed in U.S. TSCA Section 8(b) Inventory.

CERCLA (RQ): This product contains no Hazardous Substances listed in 40 CFR Part 302.

SARA Title III: Section 311/312 Hazard Class – Acute.

This product contains NONE of the substances subject to the reporting requirements of Section 313 (40 CFR Part 372).

California Proposition 65: This product does not contain any ingredient known to the State of California to cause cancer or reproductive toxicity as listed under the Safe Drinking Water and Toxic Enforcement Act of 1986.

New Jersey: Department of Health RTK List – sn 1704. Special Hazardous Substances – Corrosive

Australia: List of Designated Hazardous Substances – Corrosive (R34), Harmful (R37)

Canada – WHMIS: Controlled Product Hazard Class E; D2A. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Canada – CEPA: All components of this product are on the Domestic Substanc es List (DSL), and acceptable for use under the provisions of CEPA.

European Union (EU): Dangerous Substances (Annex I)

-Classification: Xi, R-41
-Labels: Xi
-Safety Phrases: S-2, S-24, S-26

Germany: Water Classification (VwVwS) – Water Hazard Class: 1

Switzerland: Toxic Substance Classification – Giftklasse 3

Inventories: Australian Inventory of Chemical Substances; China; European Industry of Existing Commercial Chemical Substances (231-665-7); European Union Inventory of Cosmetic Ingredients, Other Ingredients; ICCA High Production Volume Working List; Japan Existing and New Chemical Substances (1-83, 1-491, 1-501); Korea Existing and Evaluated Chemical Substances (KE-31481); Philippines Inventory of Chemicals and Chemical Substances; OECD List of High Production Volume Chemicals.

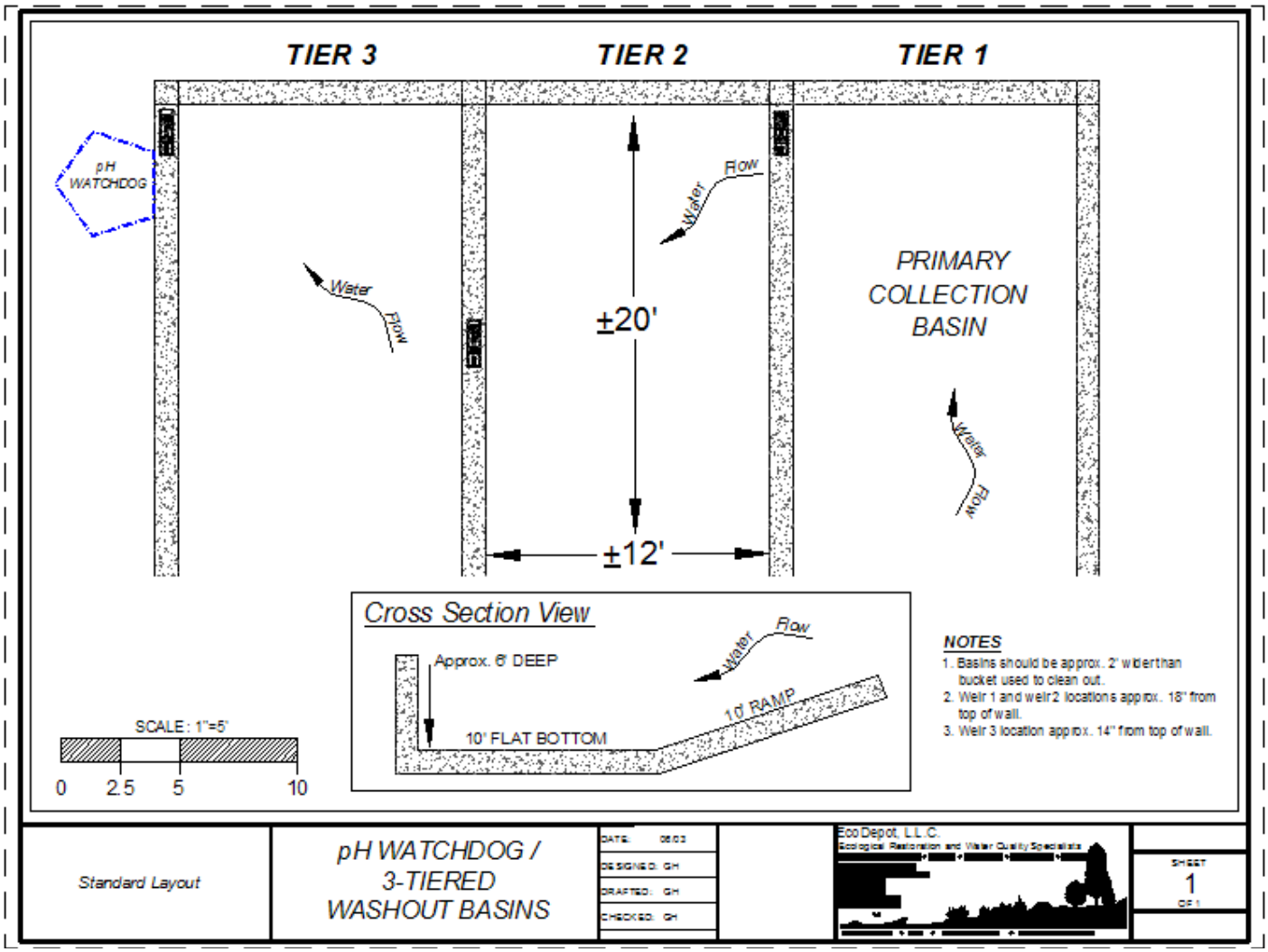
SECTION 16 - OTHER INFORMATION

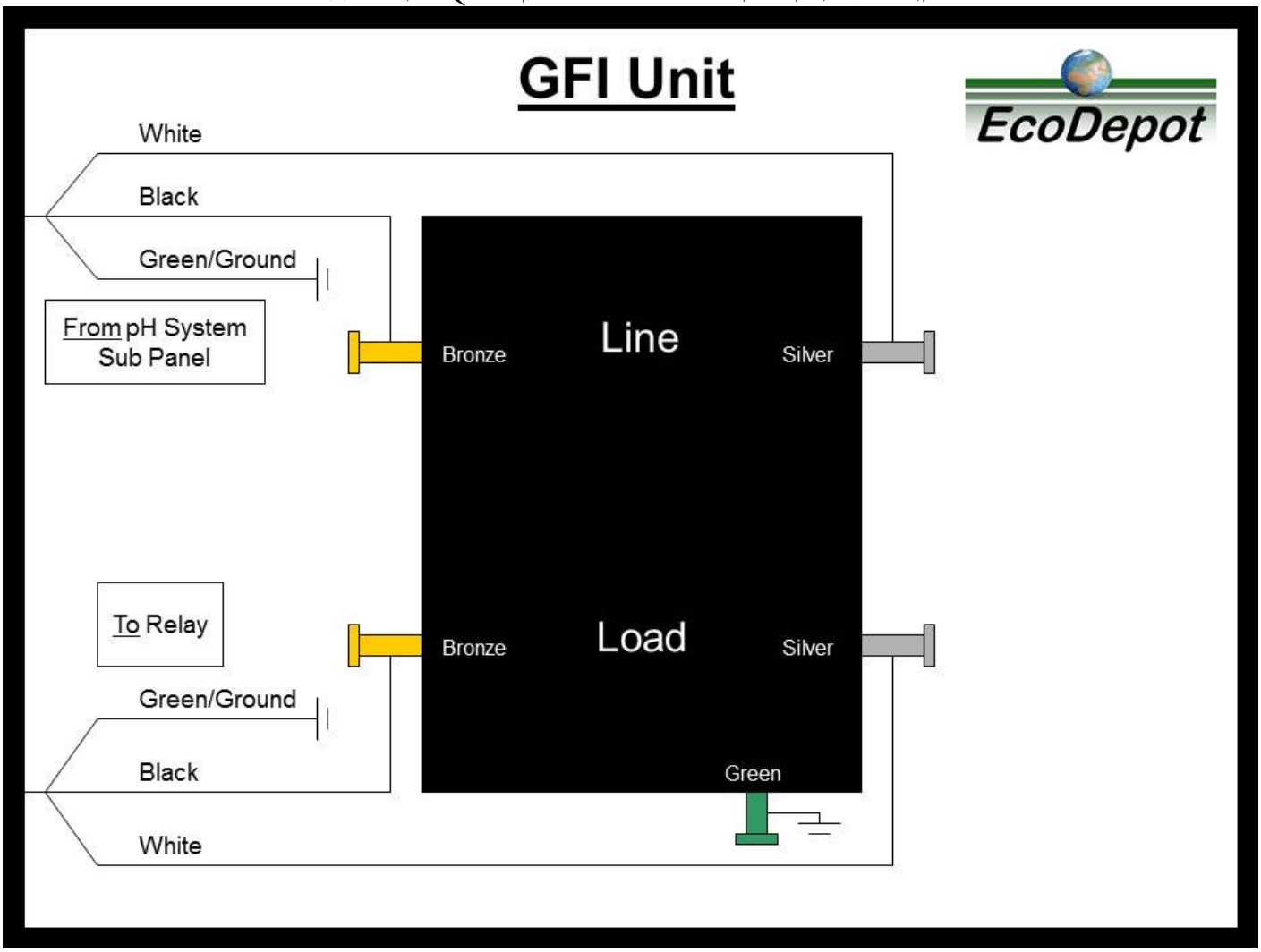
DISCLAIMER

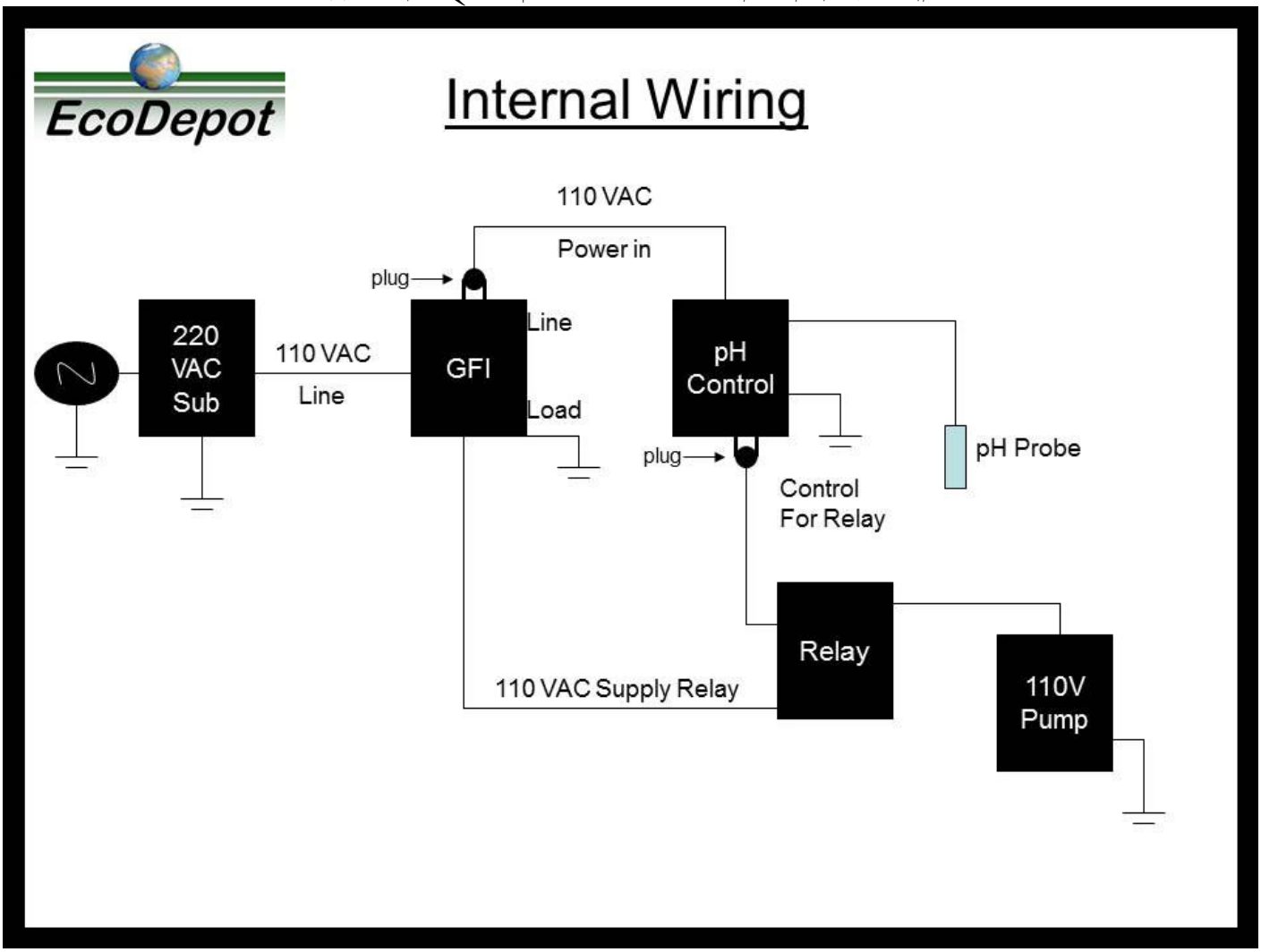
The information provided herein relates only to the specific material described herein and does not relate to its use by customer whether alone or in combination with any other material in any process. The information set forth herein is furnished free of charge and is

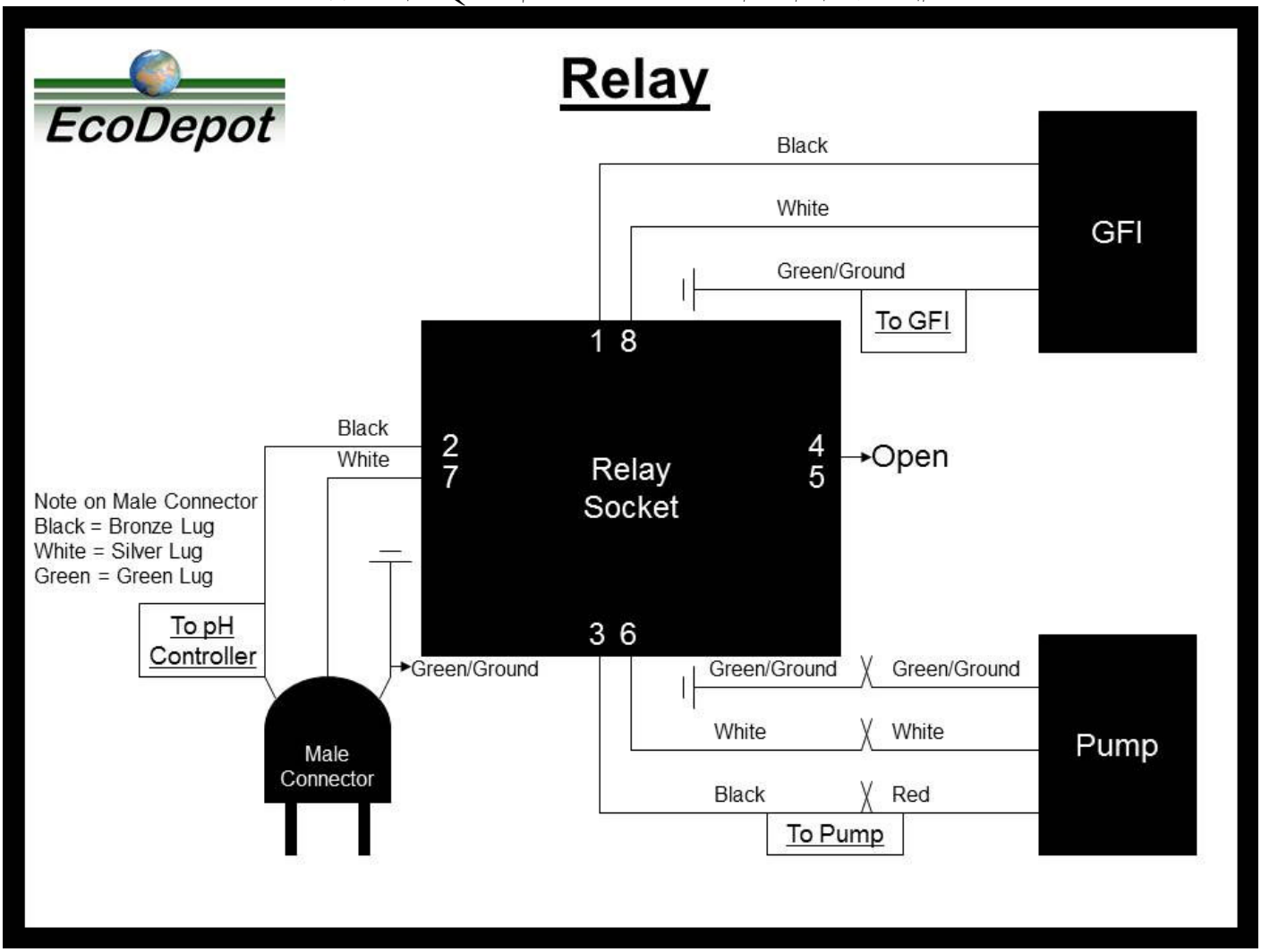
based on technical data that Jones-Hamilton Co. believes to be reliable, but Jones-Hamilton Co. or EcoDepot, LLC does not make any representation or warranty as to the accuracy or completeness of this information. This information is intended for use by persons having technical skill and at their own discretion and risk. Customer is responsible for determining whether the information included herein is appropriate for customer's use, and customer assumes full responsibility for conclusions it derives from this information. Neither Jones-Hamilton Co. nor any of its officers, employees, directors, agents or other representatives shall have any liability to customer or any of its officers, employees, directors, agents or other representatives resulting from customer's use of this information. In as much as Jones -Hamilton Co. has no reason to know how customer intends to use the information provided herein, and since conditions of use are outside of our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

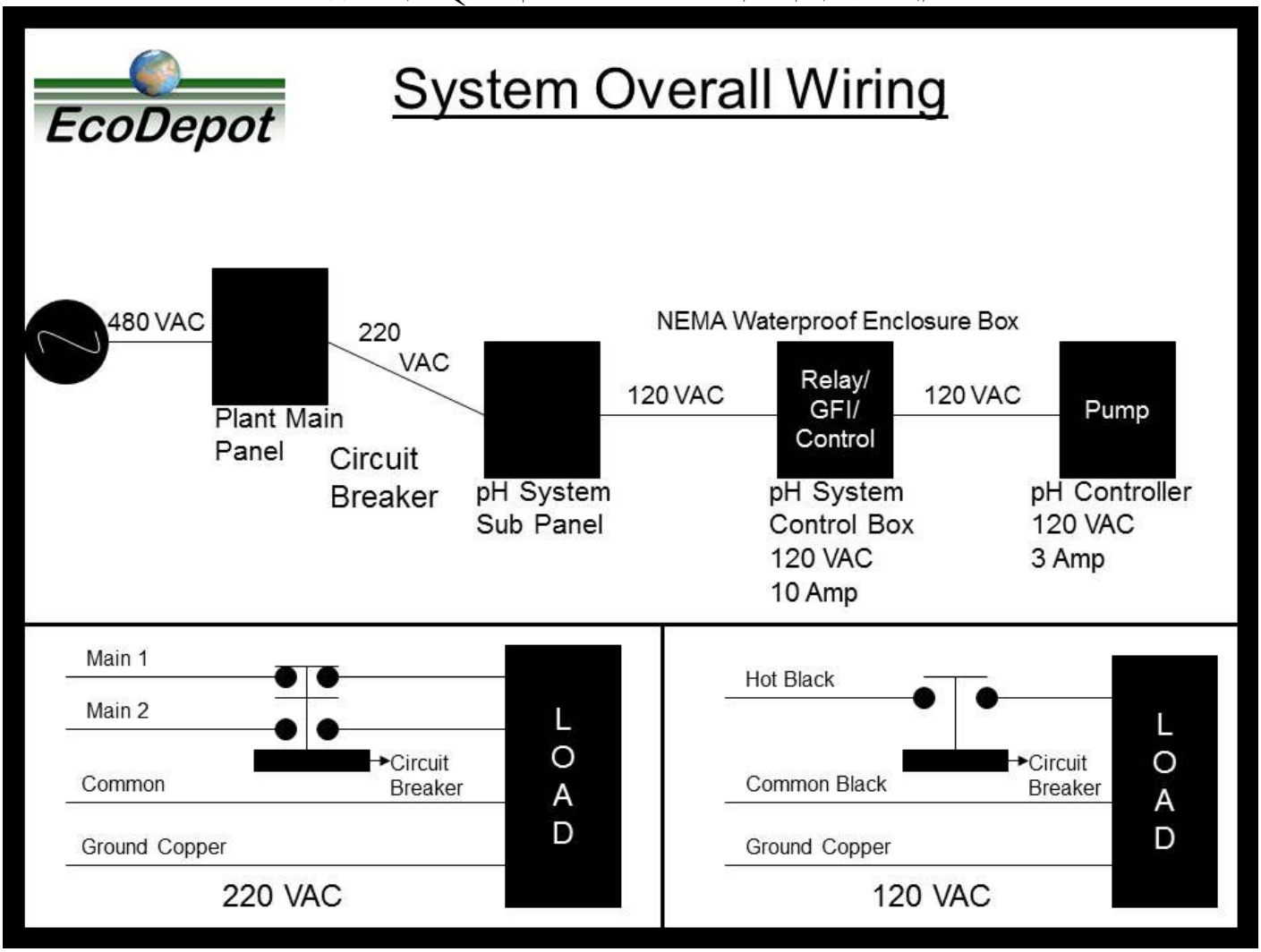
Installation Diagrams




GFI Unit
EcoDepot
White
Black
Green/Ground
From pH System Sub Panel
Bronze
Line
Silver
To Relay
Bronze
Load
Silver
Green/Ground
Black
Green
White


EcoDepot
Internal Wiring
110 VAC
Power in
plug
220
VAC
Sub
110 VAC
Line
GFI
Line
Load
pH
Control
plug
pH Probe
Control
For Relay
Relay
110 VAC Supply Relay
110V
Pump


EcoDepot
Relay
Black
White
Green/Ground
To GFI
GFI
1 8
Black
White
2
7
Relay
Socket
4
5
Open
Note on Male Connector
Black = Bronze Lug
White = Silver Lug
Green = Green Lug
To pH
Controller
3 6
Green/Ground
Green/Ground
Green/Ground
White
White
Pump
Male
Connector
Black
Red
To Pump


EcoDepot
System Overall Wiring
480 VAC
Plant Main Panel
220 VAC
Circuit Breaker
pH System Sub Panel
NEMA Waterproof Enclosure Box
120 VAC
Relay/ GFI/ Control
pH System Control Box 120 VAC 10 Amp
120 VAC
Pump
pH Controller 120 VAC 3 Amp
Main 1
Main 2
Common
Ground Copper
Circuit Breaker
LOAD
220 VAC
Hot Black
Common Black
Ground Copper
Circuit Breaker
LOAD
120 VAC