

City of Guelph - Waste Survey Report

SECTION 1 - GENERAL INFORMATION

Organization/Facility: Fond Farewell Inc.

Brief description of process, activities, and products:

Pet Aquamation is a water-based alternative to traditional flame cremation. It is a gentle and environmentally-friendly process that uses a combination of water, heat, and alkaline solution to accelerate the natural decomposition of a your loved ones.

Property Address: 70 Monarch Rd Unit 5, Guelph ON

Phone number: 2263325211

Other Guelph locations: ☒ No

☐ Yes, Details:

Person responsible for effluent control: Mike Coughlin - Owner

Contact number: 2263325211

After hours contact number: 2263325211

Facility is: ☒ Owned

☐ Leased/rented

Facility owner: Mike Coughlin c/o Fond Farewell Inc.

Owner representative:

Contact number:

After hours contact number:

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SECTION 2 – INDUSTRIAL WASTEWATER PROCESSES ON SITE

If the facility has activities and processes that generate industrial wastewater, please complete this section and Section 3. Otherwise, if not applicable, proceed to Section 4.

Number of employees in Plant/Facility: 3 total + 1 part time

Number of employees in Office: 1

Does the facility operate continuously? ☒ Yes

☒ No, number of days/week: 5

Daily shift times: 9am-5pm

Are major processes: ☐ Continuous ☒ Batch ☐ Both

Does production vary seasonally? ☒ No

☐ Yes, details:

Brief description of clean-up activities:

☒ Daily: Batch rinse down of system. Minimal water requirements. Hand spray process. (see machine manual - flow diagram)

☐ Weekly:

☐ Other:

Provide process flow diagrams to show the equipment used and waste discharge points.

☒ Included with this Waste Survey Report

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SECTION 3 – WASTE CHARACTERISTICS

List all sources of water supply: Municipal Supply

Maximum water consumption: 1.514 m3/day

30.28 m3/month

In the table below, identify the type, origin and estimated volume of wastewater discharged (check all that apply):

**Volume may be expressed as a percentage of average total volume discharged per day.*

☒ additional documentation included with this Waste Survey Report

Type	Origin	Estimated Volume
☐ Wash water		
☐ Boiler blowdown		
☐ Sanitary		
☐ Non-contact cooling		
☐ Contact cooling		
☒ Process	PET-550 Machine	.95 cu.m
☒ Other	Pet - 550 System Cleaning	.56 cu.m

In the table below, indicate where waste is discharged to (check all that apply):

☐ additional documentation included with this Waste Survey Report

Where	Type
☒ Sanitary sewer	Municipal Sewer
☐ Storm sewer	
☐ Surface water	
☐ Evaporation	
☐ Other	

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Description of the characteristics of the wastewater generated and discharges to the above, according to the parameters as set out in the City of Guelph's Sewer Use By-law.

☒ Supporting documentation included with this Waste Survey Report

☒ Meets By-law

All other parameters as shown in by-law comparison

☒ Exceeds By-law

BOD, TSS, TP, TKN, OG

Ontario Regulation 347 Information

Generator Registration Number:

Description of waste(s):

Generating process:

Waste Class(es):

Waste Hauler:

Disposal Site:

Pre-Treatment

Pre-treatment devices or processes used for treating waste or sludge before discharge to the sanitary sewer system (please check as many as are appropriate):

☐ Air Flotation

☐ Biological Treatment - Type:

☐ Centrifuge

☐ Chemical precipitation

☐ Chlorination

☐ Cyclone

☐ Filtration

☐ Flow equalization

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☐ Grease or oil separator

☒ Grease trap

☐ Grit removal

☐ Ion exchange

☐ Neutralization, pH correction

☐ Ozonation

☐ Reverse osmosis

☐ Screening

☐ Sedimentation

☐ Septic tank

☐ Solvent separation

☒ Spill protection

☐ Sump

☐ Other chemical treatment – type:

☒ Other physical treatment – type:

Temperature Contro at Unit.

☐ Other - type

☐ No pre-treatment

SECTION 4 – PHYSICAL LAYOUT

Provide a drawing or sketch of the property (to scale or approximate) to show buildings, pre-treatment works (if applicable), property boundaries, effluent lines, storm and sanitary connections including manholes and catch basins.

☒ Included with this Waste Survey Report (PDF copies are acceptable)

SECTION 5 – SPILLS RESPONSE PLAN

Provide a copy of the facility Spills Response Plan, if available.

☐ Included with this Waste Survey Report

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SECTION 6 – HANDLING AND STORAGE

Provide a list of your Global Harmonized System (GHS) (formerly WHMIS) inventory and indicate the general use of each chemical listed. This includes any handling or storage either indoors or outdoors of chemicals, raw materials, products or waste products, please indicate **volumes** of products and **locations** of each product being handled and stored.

Included with this Waste Survey Report

SECTION 7 – CERTIFICATION

The information contained in the report, to the best of my knowledge, is true, complete and accurate.

Authorized Representative:

Name:	Phill McFadden	Title:	Agent (BCS)
Phone:	519.993.4565	Date:	July 20, 2026

Requirements as per City of Guelph’s Sewer Use Bylaw

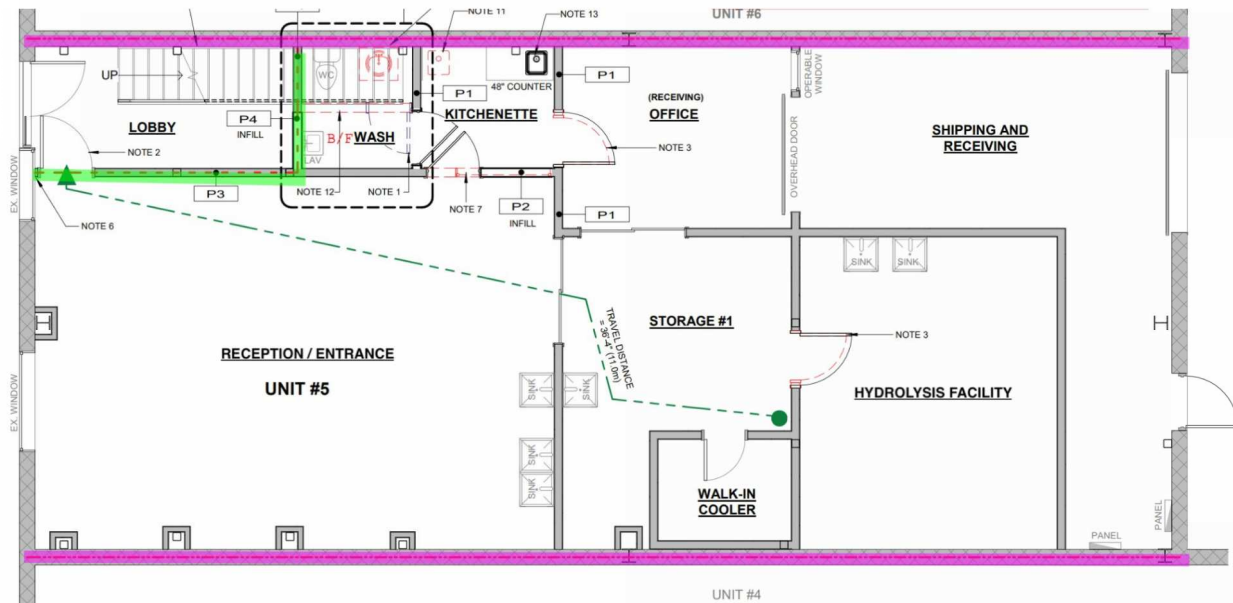
Every Owner of an Institutional, Commercial, or Industrial premises that produces discharge of Wastewater, Stormwater, Non-contact Cooling Water, Uncontaminated Water, or any combination thereof, shall submit to the City a Waste Survey Report in the format as approved by the City.

Every Owner of a Multi-Residential property serviced by a Private Sewage Collection System shall, upon request, submit to the City a Waste Survey Report in the format as approved by the City.

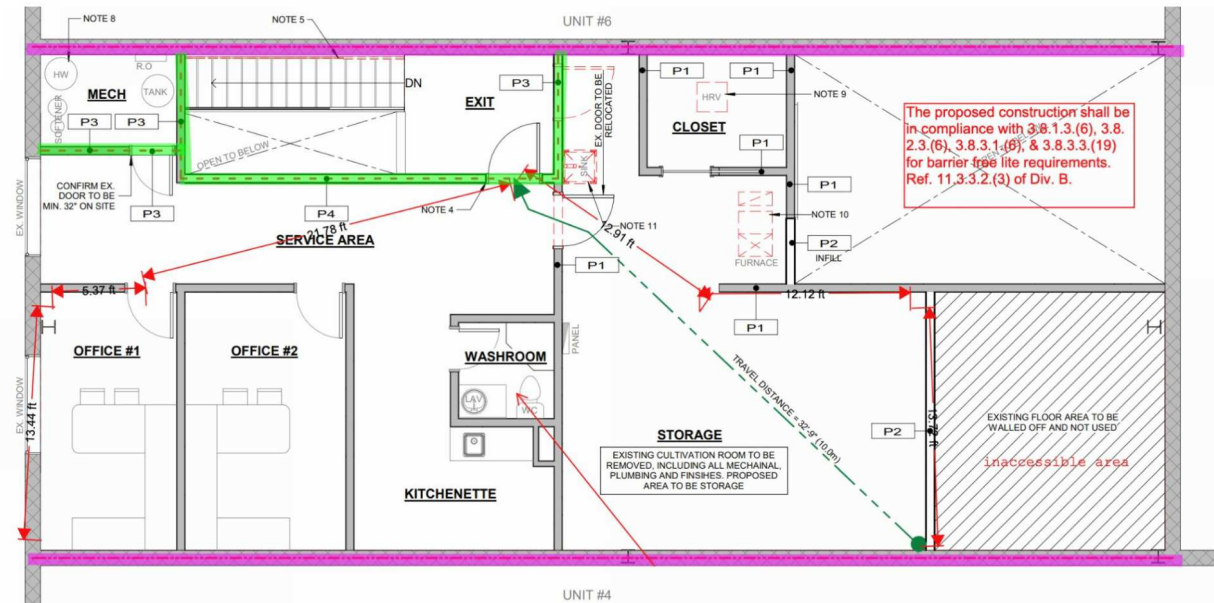
Every Owner of a Private Sewage Collection System shall, upon request, submit to the City:

- a maintenance, operations, and inspection program for their facilities in a format as approved by the City; and
- any system facility performance details in a format as approved by the City.

Every Owner shall provide written notification to the City of any change to information provided under this By-law or an agreement made hereunder, including but not limited to, Wastewater composition or process changes, within 30 days of the change or within such other time period specified in an agreement.



Proposed Hydrolysis Facility - Main Floor Plan.



Proposed Hydrolysis Facility - Second Floor Plan.

Fond Farewell – Aquamation Effluent vs. City of Guelph Sewer Use By-law No. 2024-20911						
Lab samples: 2026 Composite (Discharge + Rinse, 160 lb cycle) — ESG Laboratories, Apr 8 2026 2017 Full Analysis — Alkaline Hydrolysis Wastewater Bylaw limits: Schedule 'A' Table 1, Sanitary Sewer						
Parameter	Bylaw Limit (mg/L)	2026 Result (mg/L)	2017 Result (mg/L)	Primary Source	Status	Notes
CONVENTIONAL CONTAMINANTS & ORGANIC LOAD						
Biochemical Oxygen Demand (BOD)	300	4480	10500	2026	FAIL	
Chemical Oxygen Demand (COD)	600	8540	22400	2026	FAIL	
Total Suspended Solids (TSS)	350	1160	1346	2026	FAIL	
Total Kjeldahl Nitrogen (TKN)	100	426	462	2026	FAIL	
Oil & Grease – Animal/Vegetable	100	1390	2719	2026	FAIL	
Total Phosphorus	10	—	38.1	2017	FAIL	
PARAMETERS MEETING BYLAW LIMITS						
Total Phenols (4-AAP method)	1	—	0.575	2017	CAUTION	
Total Zinc	2	—	0.6	2017	PASS	Well within limit.
Total Chromium	2.8	—	<1	2017	PASS	Non-detect.
Total Copper	2	—	<1	2017	PASS	Non-detect.
Total Lead	0.7	—	<1	2017	PASS	Non-detect.
Total Mercury	0.01	—	<0.1	2017	PASS	Non-detect. Unlike flame cremation, AH does not volatilize amalgam mercury.
Total Nickel	2	—	<1	2017	PASS	Non-detect.

Total Cadmium	0.7	—	<0.1	2017	PASS	Non-detect.
Total Arsenic	1	—	<1	2017	PASS	Non-detect.
Fecal Coliforms	200 CFU/100mL	—	<100 CFU/100mL	2017	PASS	Non-detect. Process achieves STAATT Level III sterilization — complete pathogen inactivation.
Total Cyanide	1.2	—	0.051	2017	PASS	Well within limit.
Chloride	1500	—	42	2017	PASS	Well within limit.
All VOCs tested	Various	—	All ND	2017	PASS	Benzene, toluene, xylenes, chloroform, TCE, PCE and all others non-detect.
PHYSICAL PARAMETERS — MACHINE-CONTROLLED						
pH	6.0 – 9.5	—	10 (raw)	2017	CONTROLLED	PET-550 performs CO2 injection step before discharge, calibrated to meet local limit.
Temperature	≤ 60°C	—	Not sampled	—	CONTROLLED	PET-550 is programmed to discharge below 60°C (target <38°C / 140°F) and can adjusted to meet an local limit. Dual-sensor modulating valve physically blocks discharge if downstream sensor does not confirm compliance.

Legend	
FAIL	Exceeds Schedule 'A' Table 1 limit — variance/pre-treatment agreement required
CAUTION	Below limit but within 50% — recommend monitoring in site-specific sampling
PASS	Within bylaw limit
CONTROLLED	Parameter managed by machine engineering controls (PET-550 CO2 system / modulating valve)

| TECHNICAL SPECIFICATIONS |
| DRAWINGS | OPTIONS |

TECHNICAL SPECIFICATIONS: PET-550

I. MACHINE OVERVIEW

a. Unit Dimensions

- i. Base Unit without Options
 1. 93 1/8" L x 37 3/16" W x 83 1/8" H (236.5 cm x 94.5 cm x 211.1 cm)
- ii. Unit with Discharge Pump
 1. Discharge pump adds around 6"
 2. 99 3/16" L x 37 3/16" W x 83 1/8" H (251.9 cm x 94.5 cm x 211.1 cm)
- iii. Unit with Discharge Pump and Filter Baskets
 1. Discharge pump with filter basket adds a little over 15" (38 cm) to length and a little less than 1" (2.5 cm) to the width
 2. 106 3/16" L x 37 1/2" W x 83 1/8" H (262.1 cm x 95.3 cm x 211.1 cm)
- iv. See Unit Drawings

b. Unit Weight

- i. Dry: 1,600 lb. (726 kg)
- ii. With shipping crate: 2,300 lb. (1,043 kg)
- iii. Fully loaded for operation: 3,200 lb. (1,451 kg)

c. Operating Parameters

- i. Capacity: 1 to 550 lb. (0.54 to 249.5 kg) (min to max)
- ii. Turnaround time: 18-22 hours
- iii. Operating temperature: 199-208°F (82.5-97.8°C)
- iv. Operating pressure: atmospheric

d. Control System

- i. 6-inch (15.2 cm) Allen Bradley color touch-screen HMI
- ii. Allen Bradley control system
- iii. UL-listed NEMA-4 control panel
- iv. Advanced Remote Access Module
- v. UPS (uninterruptible power supply) Safety Feature
- vi. Drain Temperature Control: Automatic discharge below regulation temperature
- vii. pH Control: Automatic discharge below regulation pH (standard configuration includes CO₂ method)
- viii. Additional options available; please see *Available Options*

II. INSTALLATION OVERVIEW

a. Available Resources

- i. Drawings
- ii. Electrical Guide
- iii. Plumbing Guide

b. Plumbing (See *Plumbing Guide*)

- i. Required Utilities
 1. Fresh water supply (hot and cold water)
 2. Water softener treatment recommended for hard water

3. Optimal performance, 115 gallons (435 L) of 160F (71°C) hot water should be supplied at 5gpm (18.9 lpm); please see *Hot Water Heater Selection*
 4. Drain line (to sanitary sewer or holding tank)
 5. Vent line (to outdoors; roof or high side wall)
- ii. Utility Connection Sizes
1. Hot and cold water inlets – Two 10' (3 m) high-temperature hoses included
 - a. 0.75" GHT (garden hose)
 2. Vent Line Connection – customer supplied
 - a. 1.5" FNTF
 3. Drain Line Connection – customer supplied
 - a. 1.5" MNPT for standard unit (gravity drain)
 - b. 1.0" FNPT for unit with discharge pump
 - c. 2" FNPT for unit with discharge pump and filter basket
- iii. Connections by Licensed Plumber
1. Hot and cold water
 2. Vent Line connection to outside, for odor and vapor
 3. Drain line connection to sanitary sewer or tank
 4. Your plumber can call our office (317-386-3500) to discuss the material for vent line, drain line, and for an explanation of how to run the drain line to prevent aeration/odor creation – it's a 5 min. conversation.

c. Electrical (See *Electrical Guide*)

1. Units are made to customer's specification; please verify the configuration ordered.
2. Custom configurations available, please call 317-386-3500 for assistance.
3. See table below for configuration examples. Values in green are the required supply amperage.

PET-400/550								
	1-phase		3-phase					
	220/240v		208v	240v	380v	415v	480v	575/600v
15 KW	90		70	50	40	40	30	20
25 KW	NA		80	80	50	40	40	30

- ii. This machine only pulls the high amperage during heat up, then draws a few amps after.
- iii. Hardwired ethernet connection (Wi-Fi or cellular available as option; please see *Available Options*)
- iv. Connections by Licensed Electrician
 1. Bring power to the unit and Ethernet (internet) access (Wi-Fi see *Available Options*)
 2. Machines are built to order. It is highly recommended that an electrician uses a meter to determine the actual voltage that the electric supply for the machine is reading – before we build the system.
 3. We require the **Electrical Verification form** to be filled out upon order.

d. Placement Considerations (See *Unit Drawings*)

- i. Spacing around Machine
 1. Left: 36" (91.4 cm) required minimum distance from control panel to wall

2. Right: 12" (30.5 cm) recommended spacing to the wall (from discharge valve, or from the pump or filter if those options are selected)
 3. Front: 48" (121.9 cm) recommended minimum working space in front of machine
 4. Back: 12" (30.5 cm) recommended spacing from machine back to wall
- ii. Recommended Ceiling Height
1. Ceiling Height: 96" (243.8 cm) recommended to accommodate the function of the machine (hoist and basket lifting)
 2. Make sure your basket on the hoist can clear the lid when open.
- iii. Special Accommodations for Smaller Spaces
1. Please inquire for possible solutions for:
 - a. Tighter room spaces
 - b. Placement of multiple pieces of equipment in a facility (some required footprint spacing can overlap)
 - c. Moving the equipment through short doorways during receiving (the mixer assembly may be able to be removed for move-in)

WARRANTY is 1-year parts and remote service calls. Please inquire if interested in extended warranty plans.



bioresponsesolutions.com (317) 386-3500 200 Colin Ct. Danville, IN 46122

Updated 11/11/2021

Available Options: PET-100, PET-400, PET-500 Systems

Note: Prices are in US Dollars. Prices are subject to change; please request a formal quote.

1. Available Equipment Options

- a. Common Options
 - i. Most systems require pH reduction: CO2 \$2,000 or Citric \$2,500.
 - ii. Most systems are able to gravity drain, if not a discharge pump is required: \$1,500.
- b. Less Common Options:
 - i. TSS Filter: \$2,500
 - ii. Cycle Record Printer: \$800
 - iii. *Manual dry chemical is no additional charge to price of system as it doesn't involve any system components.*
 - iv. Manual metered liquid chemical addition: \$8,000 – does not automatically weigh the bodies.
 - v. Load cells and automatic liquid chemical injection: \$15,000.
 - vi. Machines include basic eWON for remote diagnostics, we require the units have internet connection (via Ethernet cable). If internet connection is an issue, there are wireless and mobile modules available (please inquire about costs and limitations).
 - vii. Other eWON module options are available, such as a unit that allows the machine to email/text your staff when an error occurs. This option is \$3000.
 - viii. Remote Viewing Access is an option that can be added to any machine at any time for an initial setup fee (\$80) and a monthly charge (\$300/yr).

Note: Other programming options are available; please let us know your needs.

2. Shipping

- a. Shipping is FOB Danville, Indiana. Bio-Response provides a custom built crate and rigging materials. We ship world-wide and can quote this cost for your location if you are outside of the continental United States. In the US this cost is typically \$1,500 to \$2,000 in the continental United States.
- b. You can also pick your equipment up from our location.

3. Receiving

- a. Machines are shipped in a custom made shipping crate.
- b. A fork truck is required to offload the crate from the delivery truck. This equipment can be rented for offloading the crate (skilled operator recommended), or a rigging company can be hired to fully handle the delivery and setting the unit in place. Fork truck rental is typically \$500 for a two day rental. Rigging companies typically charge \$900-1600 depending on services required.
- c. *Bio-Response will provide a Shipping & Receiving Guide upon order.*

4. Training

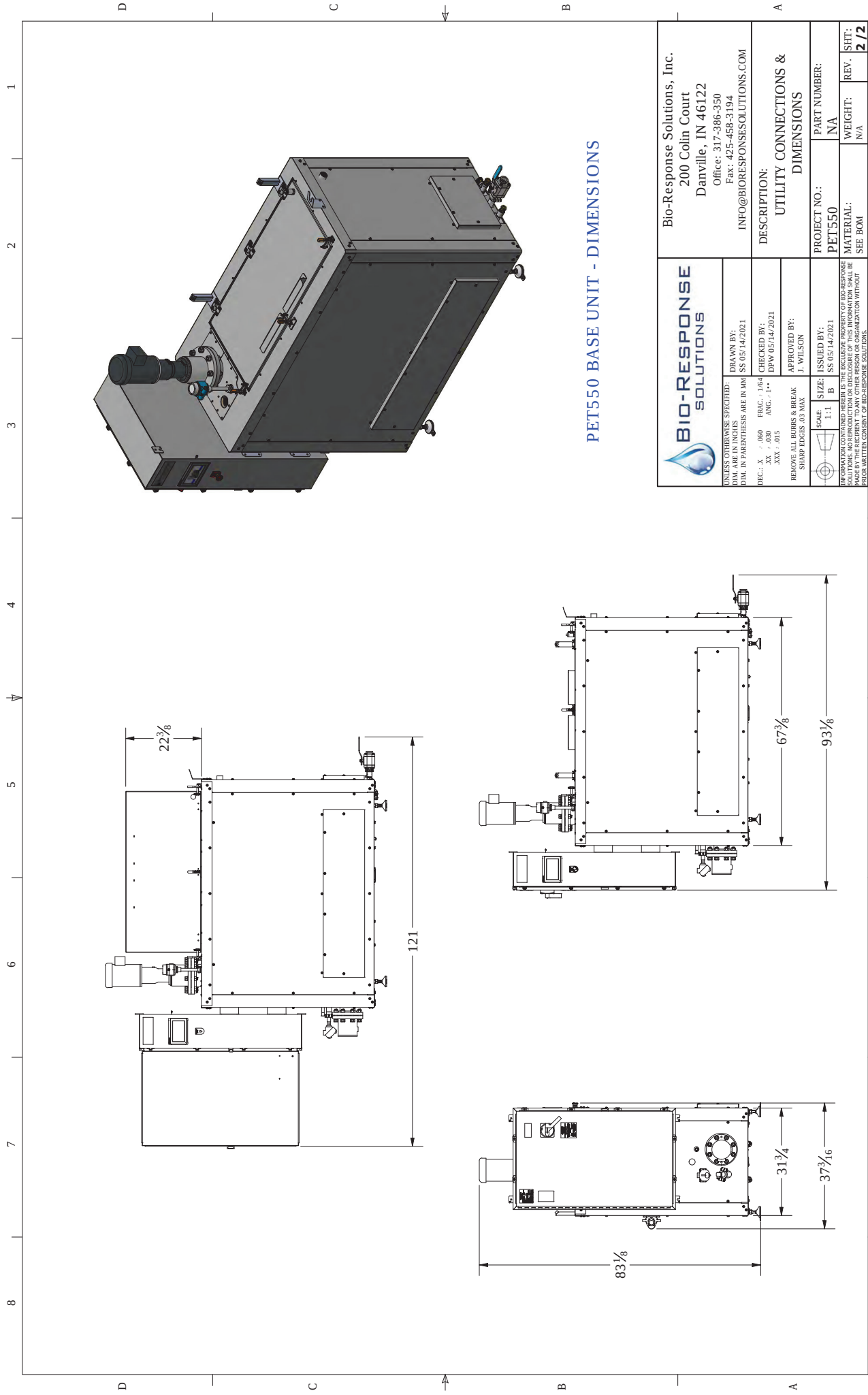
- a. On-site start up and training: \$3,000
You may also train at a customer site for a negotiated rate.



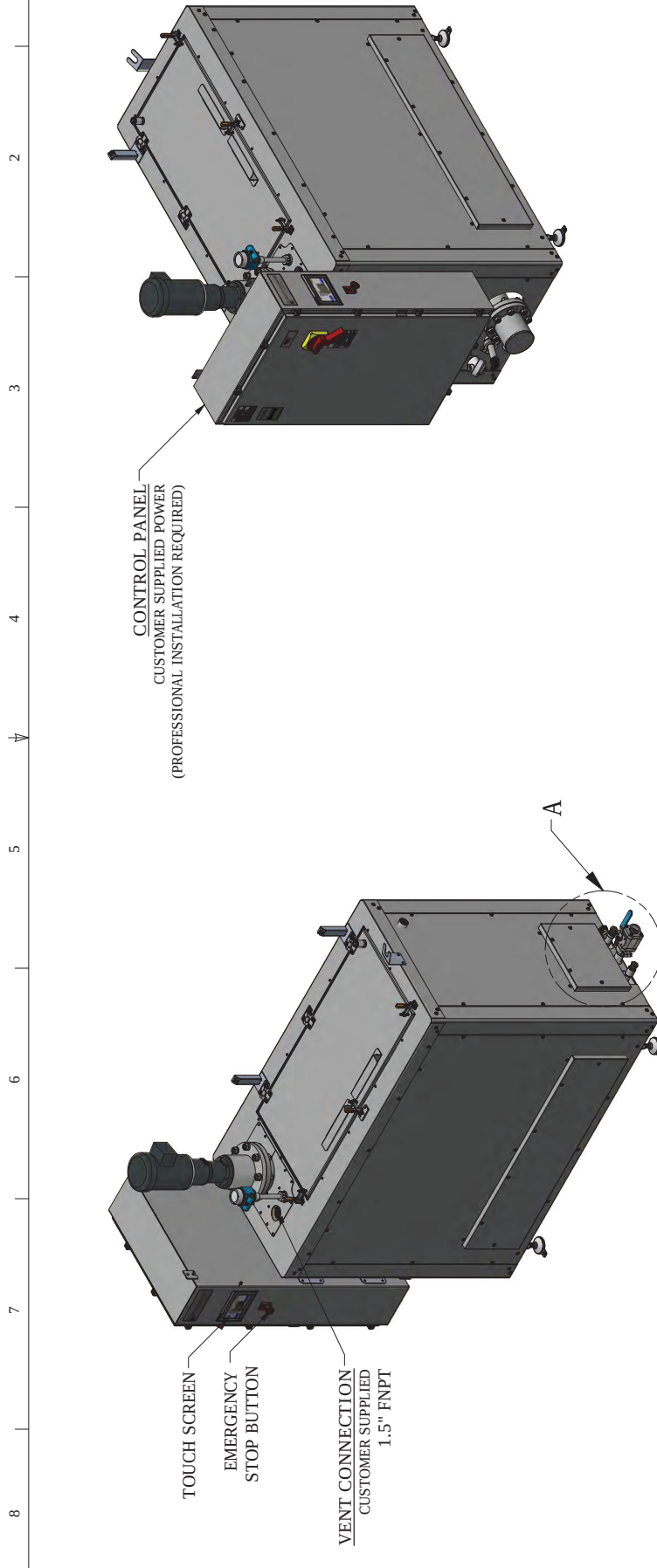
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AQUAMATION



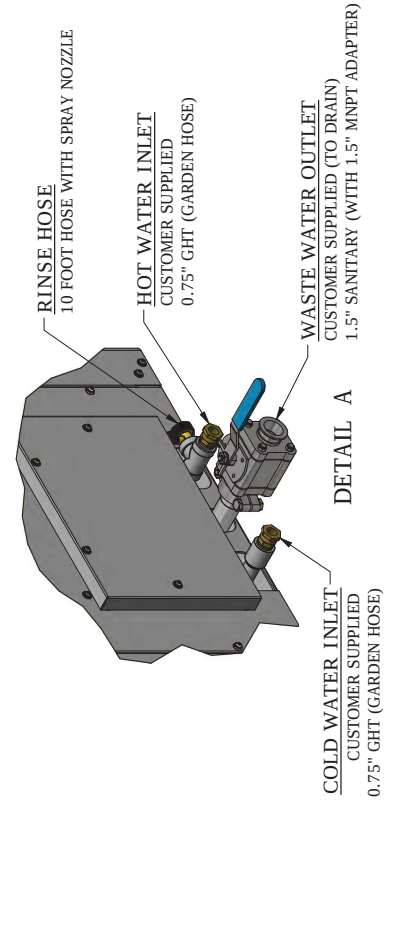
Bio-Response Solutions, Inc. 200 Colin Court Danville, IN 46122 Office: 317-386-350 Fax: 425-458-3194 INFO@BIORESPONSESOLUTIONS.COM		DESCRIPTION: UTILITY CONNECTIONS & DIMENSIONS		PROJECT NO.: PET550		PART NUMBER: NA	
UNLESS OTHERWISE SPECIFIED: DIM. ARE IN INCHES DIM. IN PARENTHESES ARE IN MM		DRAWN BY: SS 05/14/2021		CHECKED BY: DPW 05/14/2021		APPROVED BY: J. WILSON	
DEC.: X : .060 XX : .030 XXX : .015		FRAC.: 1/64 ANG.: 1°		REMOVE ALL RIBBS & BREAK SHARP EDGES .03 MAX		SCALE: 1:1	
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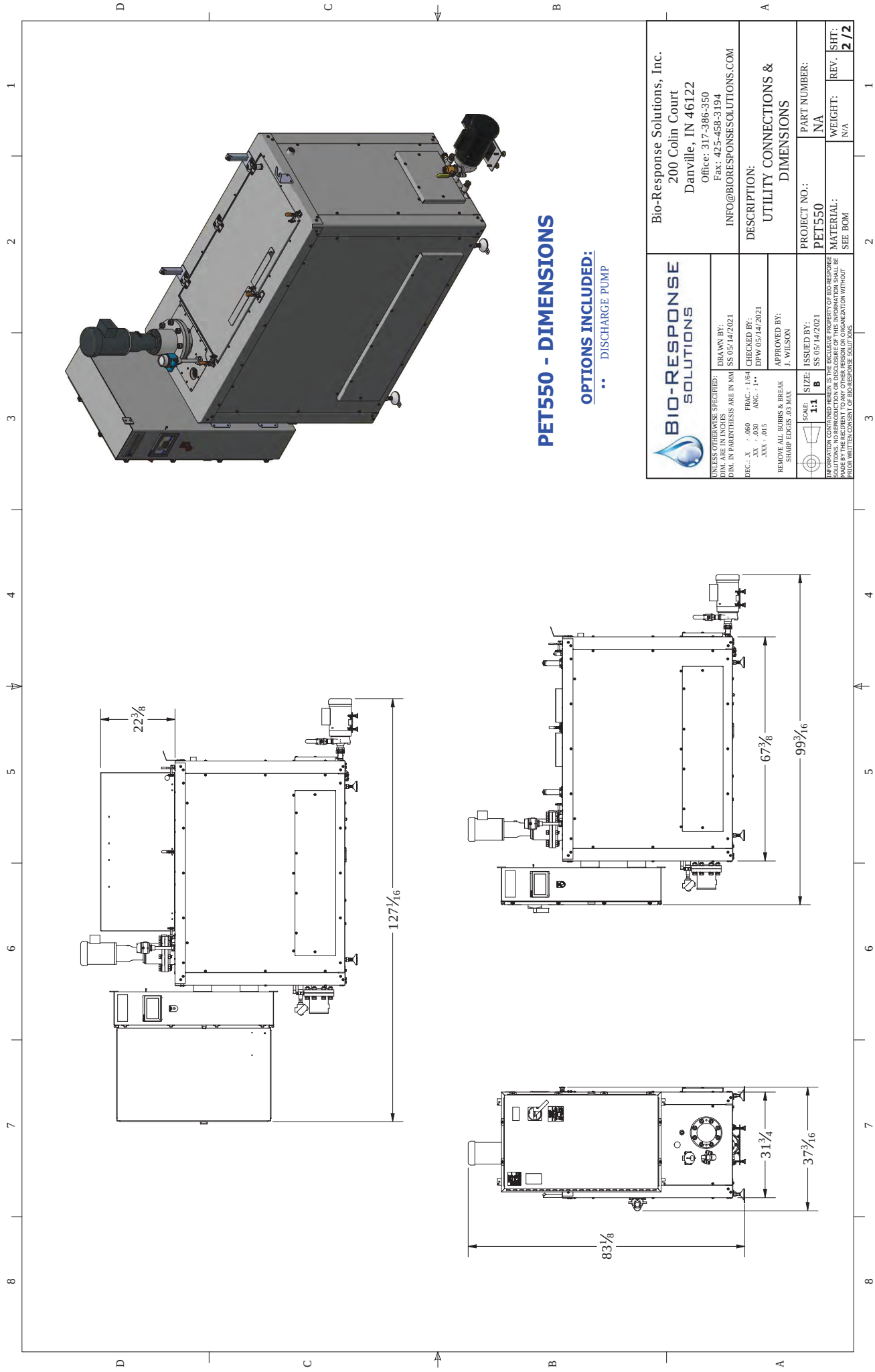
CONTROL PANEL
CUSTOMER SUPPLIED POWER
(PROFESSIONAL INSTALLATION REQUIRED)

PET550 BASE UNIT - UTILITY CONNECTIONS

PROFESSIONAL INSTALLATION REQUIRE:
•• SEE PLUMBER INSTALLATION DOCUMENT
•• SEE ELECTRICIAN INSTALLATION DOCUMENT



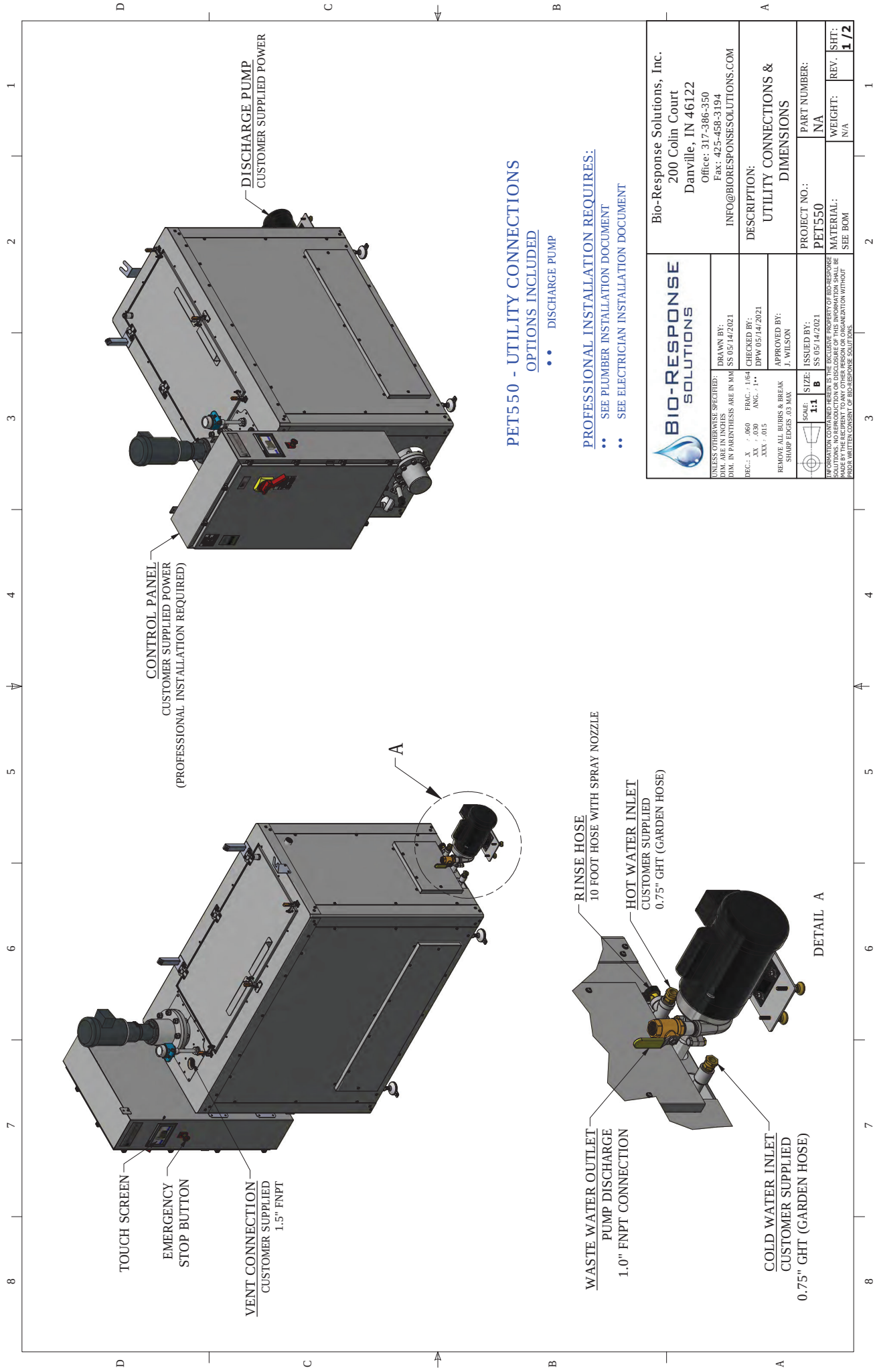
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ISSUED BY: SS 05/14/2021		REV.:	SHT:
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PET550 - DIMENSIONS

OPTIONS INCLUDED:
.. DISCHARGE PUMP

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SCALE:  1:1		PROJECT NO.: PET550	
SIZE: B		PART NUMBER: NA	
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		WEIGHT: N/A	
		REV. SHT: 2 / 2	



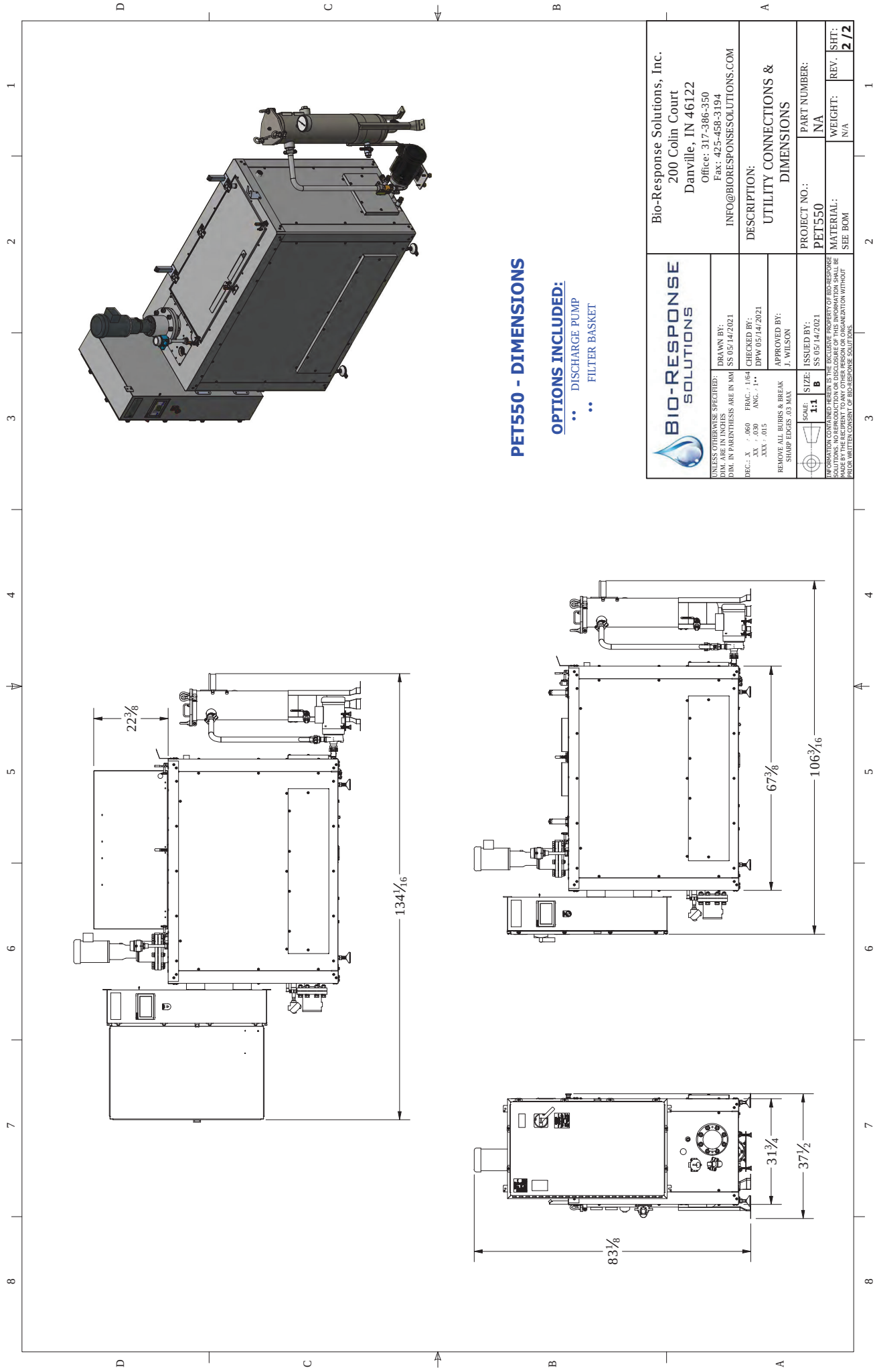
PET550 - UTILITY CONNECTIONS
OPTIONS INCLUDED

- DISCHARGE PUMP

PROFESSIONAL INSTALLATION REQUIRES:

- SEE PLUMBER INSTALLATION DOCUMENT
- SEE ELECTRICIAN INSTALLATION DOCUMENT

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SCALE: 1:1		ISSUED BY: SS 05/14/2021	REV. SHT: 1/2
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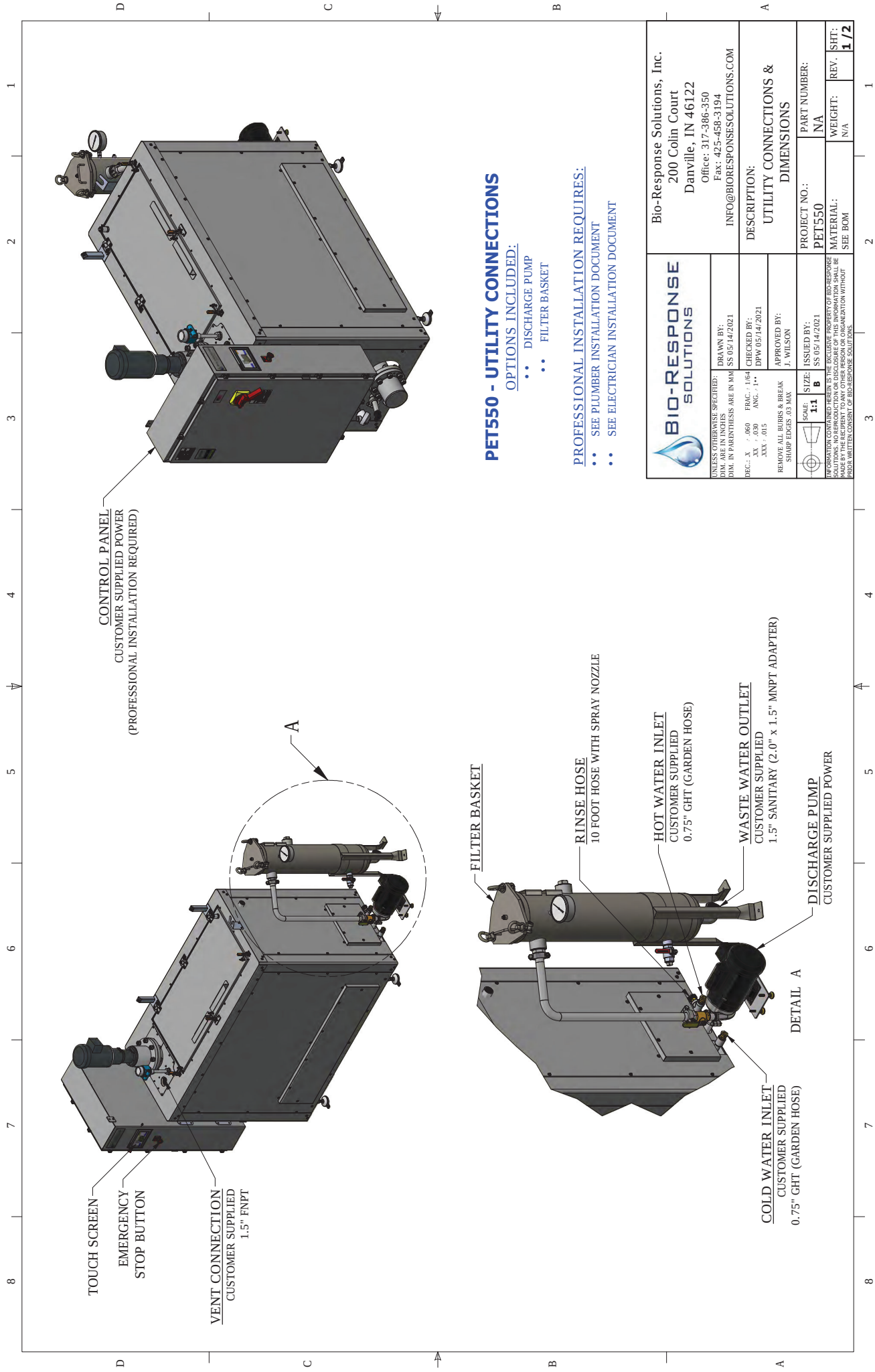


PET550 - DIMENSIONS

OPTIONS INCLUDED:

- .. DISCHARGE PUMP
- .. FILTER BASKET

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		REV. SHT: 2 / 2	



PET550 - UTILITY CONNECTIONS

OPTIONS INCLUDED:

- DISCHARGE PUMP
- FILTER BASKET

PROFESSIONAL INSTALLATION REQUIRES:

- SEE PLUMBER INSTALLATION DOCUMENT
- SEE ELECTRICIAN INSTALLATION DOCUMENT

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info@bioresponsesolutions.com



**BIO-RESPONSE
SOLUTIONS**



PATENTED

Exhibit 1: Description of Alkaline Hydrolysis

Alkaline hydrolysis is an alternative to flame-based cremation and burial. This process achieves the same end result as traditional flame cremation, which is reduction of the body to final ash remains. Families may choose this option for numerous reasons including reduced energy consumption / lower carbon footprint compared to flame cremation, an aversion to flame or fire, or other personal preference.

The process works by gently circulating a heated solution of 95% water and 5% alkali around the body for an extended period of time. All that remains at the end of the process are the final bone remains (calcium phosphate) and any medical implants. Just like with flame-cremation, the final bone remains are processed into a fine ash for return to the family in an urn (families receive about 20% more with alkaline hydrolysis versus flame cremation).

This process takes place in a highly specialized and sophisticated stainless steel vessel and requires energy (electricity), water, and alkali. All of the alkali is completely consumed in the process, and during the sterilization process all pathogens are destroyed, as well as all chemotherapy and embalming agents (if present in the body). Any mercury in the amalgam of the teeth is not vaporized or altered through this process like with flame cremation.

Alkaline hydrolysis has been used for over 29 years for the sterilization and disposition of animal mortalities at universities, research facilities, and pharmaceutical and bio-containment laboratories. Many pet crematories and veterinary clinics have special pet systems to perform eco-friendly pet cremations.

The process has also been used for many years for disposition of human bodies donated to medical science (medical cadavers) and disposal of human anatomical waste. Shands Hospital at the University of Florida (Florida State Anatomical Board) purchased the first commercial system for the disposition of human remains in 1995 as part of their willed-body program. The well-known MAYO Clinic in Rochester, Minnesota has employed the process since 2006 for their donated body program. In January 2011, the first single-body system for human disposition was installed in a funeral home. A large number of systems are now in operation in funeral homes and crematoriums across the US and Canada, and the service is available as an option to the families that those funeral professionals serve.

Additional Facts:

- There are no emissions of harmful greenhouse gasses from this process.
- The process consumes 1/15 the amount of energy a traditional flame cremation consumes.
- The carbon footprint is less than 1/10 the carbon footprint of traditional flame cremation or burial.

We have over 29 years of experience with this technology and we are happy to answer any questions you may have.

Bio-Response Solutions

200 Colin Court

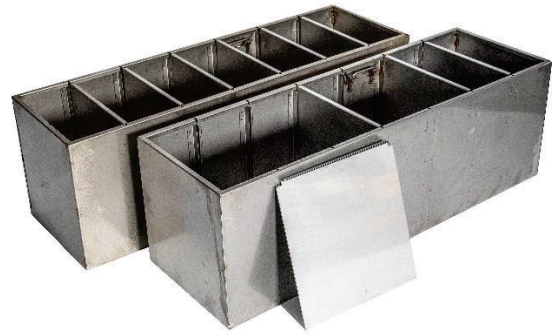
Danville, IN 46122

Office: 317-386-3500

Email: info@bioresponsesolutions.com

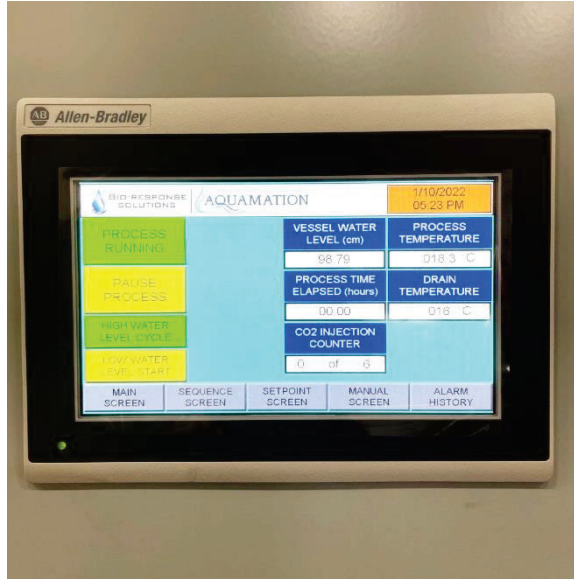
Website: www.bioresponsesolutions.com

Exhibit 2: PET System Photos



Patented Individual Pet Compartments





State of the Art Fabrication and Programming | Allen Bradley Touch-Screen HMI | 100% Stainless Steel Construction



ASME Certified Welders and Fabricators | UL / CUL Certified Panel Builders and Marked Panels | 250-Point Certified Factory Testing

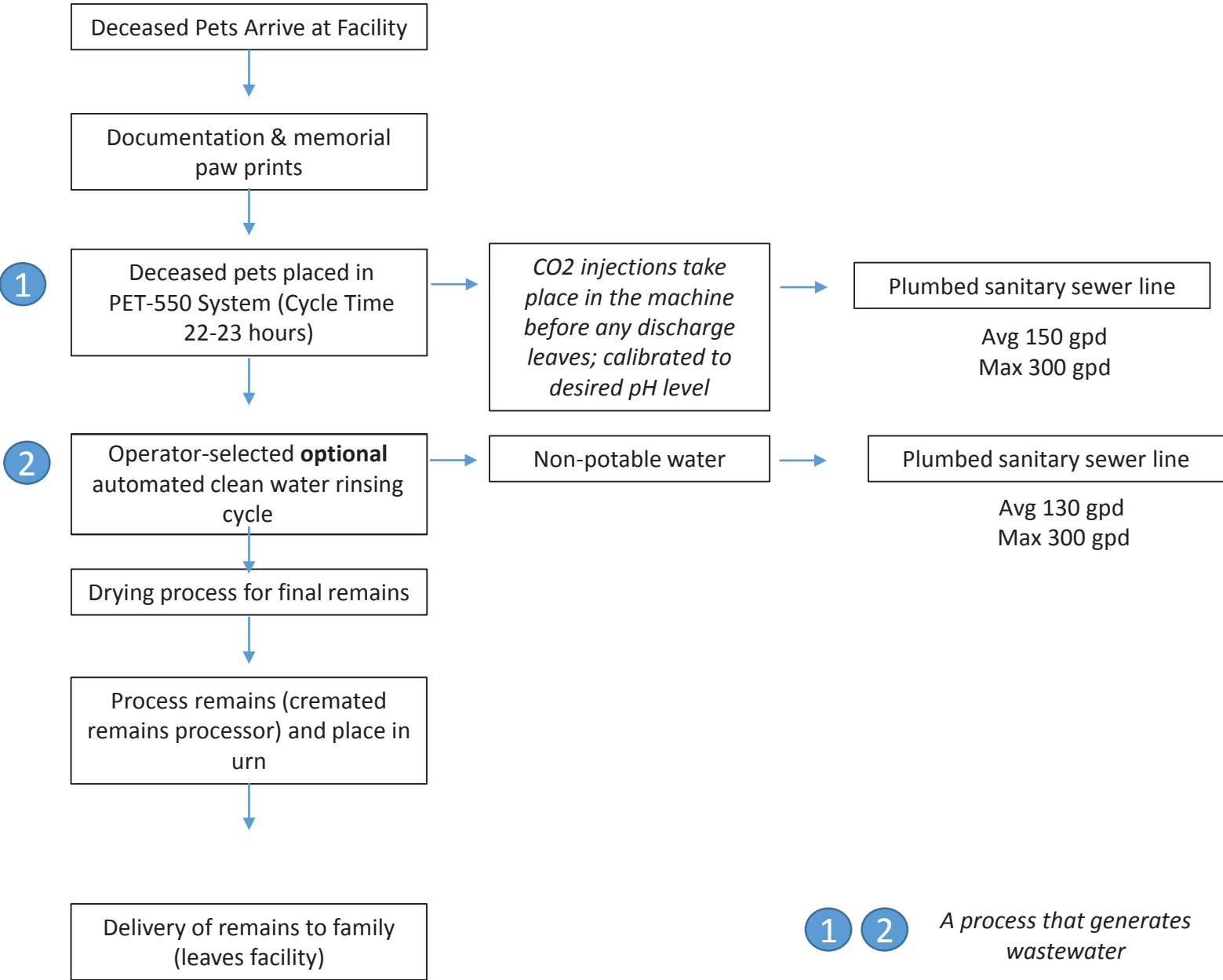
Additional Photos: <https://aquamationinfo.com/petsystems/>

Explainer Video: <https://www.youtube.com/watch?v=uxONVGG3vhs>

PET-550 Video: <https://vimeo.com/434024674>

Exhibit 3: Schematic Flow Diagram

Pet Aquamation (Alkaline Hydrolysis)
PET-550 System





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Exhibit 4: PET-550 Process and Byproducts

Alkaline hydrolysis is essentially an accelerated version of what takes place during natural decomposition. A combination of gentle water flow, temperature, and alkalinity is used to accelerate the natural course of tissue hydrolysis. Similar to cremation, the only solid remains are the mineral ash of the bones

The PET-550 system was specifically designed for the disposition of pets. Each pet may be placed within its own separate compartment inside a stainless-steel system. The system has a sophisticated control system to automate the process; the operator places the pets in the compartments, and initiates the process from a touch-screen PLC. During the process, a solution consisting of 95% water and 5% alkali is circulated throughout the compartments, dissolving the tissue. The solution is circulated for 18-20 hours at 204 degrees Fahrenheit (plus 2-4 hours heat-up, for a total process time of 22-23 hours). All of the material is sterilized during this process. At the end of the cycle, the water solution contains sugars, nutrients, amino acids, small peptides, and a small amount of biodegradable soap (fats, oils, and grease are saponified). All euthanasia chemicals are neutralized and broken down completely in this process, and all pathogens are destroyed.

When the reduction process is complete, the system performs a CO₂ injection, calibrated to meet the local wastewater authority's requirements. The system is also programmed to discharge at temperatures below any regulatory sewer requirement.

After discharge the sewer or holding tank, the system can perform an optional rinse cycle to cleanse the mineral bone remains, or the operator may do this by hand with a hand spray to conserve water use. The final remains are sterile and safe to handle immediately after the process (they are cooled during the rinse process). These remains undergo a drying process, and are processed to powdered ash in a specialized processor (the same equipment used after a flame cremation) to be returned to the pet owners in an urn. Families receive 20% more ash remains from this process versus flame cremation.

The PET-550 system can process only one cycle per day. Total water consumption for a low-level cycle is 230-300 gallons. The total water consumption for a high level cycle is 460-600 gallons. The cycle time for a low-level cycle is the same as a high-level cycle, so the equipment is self-limiting to one cycle per day regardless of use.

Additional Facts:

- There are no emissions of harmful greenhouse gases from this process.
- The process consumes 1/20 the amount of energy a traditional flame cremation consumes.
- The carbon footprint is less than 1/10 the carbon footprint for pet cremation.
- This process has been used for over 30 years for the sterilization and disposal of animal carcasses and medical cadavers from medical facilities, research facilities, universities, and biocontainment laboratories.

We have over 30 years of experience with this technology and we are happy to answer any questions you may have.



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Exhibit 5: pH and Temperature Control

pH

When the hydrolysis process is complete, the system performs a CO₂ injection step to reduce effluent pH. The equipment can be calibrated to meet any wastewater authority range, by changing both the injection duration and the # of injections. CO₂ is used for pH reduction ranges 9.5 and above. If a city requires pH adjustment below 9.0, it is recommended that citric acid is used. A citric acid system, can also be calibrated with our machine programming.

Temperature

The Aquamation System is programmed to discharge at temperatures below regulatory sewer requirements (typically 140 degrees Fahrenheit). The set discharge temperature is monitored by two temperature sensors (one in the machine, and one just downstream of our modulating discharge valve). The modulating valve will shut and prevent any effluent to the sewer if the second sensor does not meet the programmed temperature.

Exhibit 6: Sterilization Statement



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June 03, 2026

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RE: Sterilization Capability of Alkaline Hydrolysis Systems

To Whom It May Concern:

This letter is to provide a formal statement that the alkaline hydrolysis process achieves complete sterilization of pathogenic material.

Alkaline hydrolysis has been used for over 29 years for the sterilization and disposition of human and animal mortalities at universities, research facilities, pharmaceutical and bio-containment laboratories, and medical schools. This process uses heat, alkalinity, water, and flow to reduce a body to essential mineral remains, thoroughly destroying pathogens and chemicals. Alkaline hydrolysis for whole tissue and bodies meets sterility assurance level III of the US State and Territorial Association on Alternate Treatment Technologies (STAATT) requirements, which is the highest level of pathogen reduction. Alkaline hydrolysis systems achieve inactivation of bacteria, fungi, viruses, parasites and mycobacteria at 10^6 reduction, inactivation of spore-forming bacteria at 10^6 reduction, and complete prion inactivation through peptide reduction to <3kDa in size.

Our world's most heavily regulated BSL-2, BSL-3, and BSL-4 biocontainment research laboratories use alkaline hydrolysis specifically for its sterilization and drug/chemical neutralization abilities. These include many of our nation's most renowned Disease Diagnostic Centers, Medical Research Centers, and Government Research Institutions that work with exotic pathogens at high concentrations. Hundreds of validation tests have been performed to verify this technology's ability to sterilize pathogenic material. Over 250 systems of this type discharge to their local wastewater treatment plants without issue, including many extremely large systems (up to 10,000lb/4500kg capacity systems).

Our company has over 29 years' experience with advanced sterilization systems. Please contact me with any additional questions.

Respectfully,

Samantha J. Sieber
Biologist
CSO Bio-Response Solutions, Inc.
info@bioresponsesolutions.com



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**EFFLUENT DECONTAMINATION SYSTEMS
ALKALINE HYDROLYSIS SYSTEMS
CONSULTATION**

Exhibit 7: Integrity of Works

I. System Engineering

- The PET-550 system (manufacturer Bio-Response Solutions, Inc.) has safeties in place to prevent any spilling of process water.
- The system has an uninterruptable power supply (UPS) to allow all valves and components to fail safe in the event of a power outage.
- The system also has EWON remote internet connectivity to alert the company and building personnel of any system errors during the process should one occur. This also allows emergency remote diagnostics from the manufacturer.
- The system has safeties to alert the operator of any maintenance that needs to be performed. If a component fails, the system will not allow the operator to perform a cycle. Our panel is UL/CUL listed, NEMA-4, and the system employs the Allen Bradley CompactLogix PLC and Panelview Plus Seven color touch screen HMI.

II. Operator Responsibility

- Routine annual maintenance items are non-critical to the proper functioning of the system. They include replacing an automatic seal conditioner annually, barrier fluids, and door seal as needed (if damaged). All other items will cause an alarm and error if replacement is needed, and prohibit operation of the equipment until attended to.
- The operator would be responsible for proper use of the chemicals. Training for all operators is required before the manufacturer will clear the machine for operation.