

Industrial Waste & Backflow Compliance  
1101 Market Street, 6<sup>th</sup> Floor  
Philadelphia, Pennsylvania 19107-2994

RANDY E. HAYMAN  
Commissioner

January 13, 2020

Michael Sarcinello  
Aquaterra Technologies, Inc.  
P.O. Box 744  
West Chester, PA 19382

RE: Groundwater Discharge Permit

Dear Mr. Sarcinello,

Enclosed is your Groundwater Discharge Permit. The effective and expirations dates appear on the Permit's cover page.

We suggest that you carefully review the provisions of the Permit and familiarize yourself with your monitoring and reporting responsibilities. In particular, please review the following permit sections:

- **Discharge Conditions** - Identifies the conditions in which you are permitted to discharge. *Pay particular attention to dry weather and treatment requirements.*
- **Discharge Limits** – Identifies regulated pollutants and discharge limits for those pollutants.
- **Monitoring Requirements** – Identifies parameters you are required to monitor during your project. *Pay particular attention to the wastewater sampling frequency and parameters.*
- **Reporting Requirements** – Specifies reporting requirements during and upon completion of your project.
- See the attached sheet (Philadelphia Water Department Regulations Section 502.4 (h) for your reporting responsibilities in the event of a permit violation.

Should you have any questions, please feel free to call me at 215-685-6085.

Thank you for your continued cooperation.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jennifer L. Moore", written over a horizontal line.

Jennifer L. Moore  
Chief Engineer  
Industrial Waste & Backflow Compliance  
Philadelphia Water Department





**PHILADELPHIA WATER DEPARTMENT  
GROUNDWATER DISCHARGE PERMIT**




**COMPANY:** Aquaterra Technologies, Inc.

**LOCATION:** Evergreen Resources Management Group, LLC  
Philadelphia Refinery, AOI-8 North Yard  
Maiden Lane Remediation System  
Philadelphia, PA 19145

Aquaterra Technologies, Inc. is hereby authorized to discharge groundwater from the location above to the City of Philadelphia (City) sanitary sewer system in accordance with the Philadelphia Water Department Regulations (PWDR), and applicable federal, state or local law or regulation, and the terms and conditions set forth herein. All discharges authorized herein shall be consistent with the terms and conditions of this Permit. The discharge of any pollutant identified in this Permit more frequently than or at a level in excess of that authorized, as well as failure to fulfill any other term or condition of the Permit, shall constitute a violation of the Permit.

The Permit shall become effective on January 13, 2020 and shall expire at midnight on December 31, 2024.

BY:   
Jennifer L. Moore  
Chief Engineer  
Industrial Waste & Backflow Compliance  
Philadelphia Water Department

**Discharge Conditions:**

- Groundwater is treated using oil/water separation before being discharged to the City sewer
- This permit is valid for Aquaterra Technologies, Inc. only. No other contractor or subcontractor is permitted to discharge under this permit.
- Discharge shall be groundwater and/or accumulated stormwater encountered during the excavation for the Maiden Lane Remediation System site as identified during Aquaterra Technologies, Inc.'s permit application process.
- Initial discharge must be held for sampling. A priority pollutant scan, Total BTEX, and Oil and Grease must be analyzed. Analytical results shall be both mailed and emailed to Jennifer L. Moore at [Jennifer.L.Moore@phila.gov](mailto:Jennifer.L.Moore@phila.gov) prior to discharge. Approval to discharge will be granted based on the results.
- Discharge must be made through an on-site connection (lateral) to the sanitary sewer as discharges to manholes and inlets are prohibited.
- Discharge shall be made during dry weather only. (No discharge within 24 hours of a rain event).
- No floating layer or visible sheen is present.
- Not to exceed 10% of the lower explosive limit at the point of discharge.
- The discharges must be free of silt, dirt and mud. If necessary to achieve this, a silt bag, sock, or other type of solids filter, 80-100 mesh or finer must be used.

**Discharge Limits:**

Parameter	Daily Maximum	Monthly Average
Discharge Rate	50 GPM	---
Discharge Limit	25,000 GPD	---
Arsenic	0.15 mg/L	0.10 mg/L
Total BTEX+ MTBE <sup>1</sup>	40 mg/L	---
Cadmium	0.2 mg/L	0.1 mg/L
Chromium (total)	7.0 mg/L	4.0 mg/L
Copper	4.5 mg/L	2.7 mg/L
Lead	0.69 mg/L	0.43 mg/L
Mercury	0.01 mg/L	0.005 mg/L
Nickel	4.1 mg/L	2.6 mg/L
Polychlorinated Biphenyls (PCBs)	Non-Detectable by EPA Method 608	---
SGT-HEM <sup>2</sup>	100 mg/L	---
Silver	0.43 mg/L	0.24 mg/L
Zinc	4.2 mg/L	2.6 mg/L

<sup>1</sup>Total BTEX + MTBE refers to sum of the sampled concentrations of Benzene, Toluene, Ethylbenzene and Xylene & Methyl Tert-Butyl Ether.

<sup>2</sup>SGT-HEM refers to silica gel treated n-hexane extractable material as determined by an approved EPA method as defined in 40 CFR Part 136.



**Monitoring Requirements and Representative Sampling:**

- Flow (volume) to the sewer may be measured continuously or by a method that has been approved in writing by the City.
- Monitoring for the parameters with discharge limits shall be conducted at minimum once monthly for all months during which groundwater is discharged from the project site.
- Samples and measurements taken for purposes of the monitoring requirements specified in this permit shall be representative of the monitored activity.
- Aquaterra Technologies, Inc. shall maintain and submit daily logs, with discharge rates (GPM and GPD) and monthly volumes to show compliance with discharge limits (See Exhibit C).

Parameter	Measurement Frequency	Sample Type
Flow	(a)	(a)
pH	(b)	(b)
Arsenic	1/Week (c)	Composite (d)
Total BTEX+ MTBE <sup>1</sup>	1/Week (c)	Grab
Cadmium	1/Week (c)	Composite (d)
Chromium (total)	1/Week (c)	Composite (d)
Copper	1/Week (c)	Composite (d)
Lead	1/Week (c)	Composite (d)
Mercury	1/Week (c)	Composite (d)
Nickel	1/Week (c)	Composite (d)
SGT-HEM	1/Week (c)	Grab
Silver	1/Week (c)	Composite (d)
Zinc	1/Week (c)	Composite (d)

- a) Flow (volume) to the sewer shall be measured continuously or by a method that has been approved in writing by the City. Measured or estimated average and maximum daily flow for each reporting period shall be reported.
- b) pH - Shall be monitored continuously or by weekly grab samples.
1. For pH that is monitored continuously, the pH shall be no less than 5.5 and no more than 12.0 standard units for at least 55 minutes in every 60-minute period. pH shall be no less than 5.0 standard units at all times.
  2. For pH that is measured by weekly grab sample, the pH shall be no less than 5.5 and no more than 12.0 standard units at all times.
- c) If Aquaterra Technologies, Inc. achieves consistent compliance with permit limits over an eight-week period, Aquaterra Technologies, Inc. may submit a written request to PWD for a reduction of the required sampling frequency. This frequency may be reduced if approved in writing by the City.
- d) Time proportional composite sample consisting of at least one discrete sample per hour on one process day per week. The discrete samples are to be composited and properly preserved.

**Reporting Requirements:**

- Exceedances of permitted limits must be reported pursuant to Section 502.4 (h) of the PWDR.
- Monthly discharge (flow) quantities and analytical data for the previous 3 months shall be provided to this office during the month of January, April, July, and October.
  - Flow reporting is still required in the event that no discharge is made during a particular week or month.
  - Monthly discharge (flow) quantities must include discharge rate in Gallons per Minute and Gallons per Day. (See Exhibit C)
  - Each discharge must be in compliance with the GPM and GPD limit at all times.
- All reports must include the following certification statement:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."
- Aquaterra Technologies, Inc. will be invoiced for the volume of groundwater discharged to the City sanitary sewer at the current rate listed in the Section 7.1 of the PWD Rates and Charges.
- Aquaterra Technologies, Inc. must request an extension 30 days prior to the expiration of this permit.
- Upon the expiration of this permit (see below) a Closure Statement must be provided to this office within 30 days. This Closure Statement shall be submitted in writing, and shall contain, at a minimum, the following:
  - 1) Name and address of permittee (that at which the permitted discharge took place);
  - 2) Name and telephone number of company contact person;
  - 3) Final date(s) of discharge(s);
  - 4) List of other discharge(s) that will continue to operate at same location;
  - 5) A certification statement signed and dated by an authorized representative of the permittee.
- All reports and closure statement must be sent to:

Attn: Jennifer L. Moore  
PWD-Industrial Waste & Backflow Compliance  
1101 Market Street, 6<sup>th</sup> Floor  
Philadelphia, PA 19107









EXHIBIT B  
PHILADELPHIA WATER DEPARTMENT REGULATIONS  
SECTION 502.4 (h)

any hazardous waste, where allowed by its Permit, do not require additional notification.

(3) In the case of any new regulations under Section 3001 of RCRA identifying additional characteristics of hazardous waste or listing any additional substance as a hazardous waste, the Industrial User must notify the City, the EPA Regional Waste Management Division Director, and State hazardous waste authorities of the discharge of such substance within ninety (90) days of the effective date of such regulations.

(4) In the case of any notification made under this Section, the Industrial User shall certify that it has a program in place to reduce the volume and toxicity of hazardous wastes generated to the degree it has determined to be economically practical.

(f) Closure Statement

If Industrial User requests modification or termination of Industrial User's Wastewater Discharge Permit due to ceasing all or part of the process(es) regulated by the Permit, Industrial User shall submit to the City, in writing, thirty (30) days prior to closing, a Closure Statement which shall contain, at a minimum, the following:

(1) company name and address (at which regulated process(es) are or were located);

(2) name and telephone number of company contact person;

(3) closure date(s) of regulated process(es);

(4) list of other process(es) that will continue to operate at same location;

(5) indication of whether a water shut-off request has been filed if entire facility has or will shut down;

(6) ultimate plans for disposal of building(s), equipment and materials;

(7) schedule for (6) above;

(8) receipts and manifests for disposal of hazardous wastes and materials, etc.; and

(9) a certification statement, signed and dated by an Authorized Representative of the Industrial User, as required by 40 CFR 403.6(a)(2)(ii) and Section 502.4(k) of these Regulations.

(g) Notice of Potential Problems

Industrial User shall notify the City immediately of all discharges which could cause problems to the POTW, including spills or slug discharges.

(h) Notice of Indication of Violation

If sampling performed by Industrial User indicates a violation, User shall notify the City within twenty-four (24) hours of becoming aware of the violation, and submit to the City within five (5) business days, unless otherwise specified, a detailed written report describing the discharge and the measures taken to prevent similar future occurrences. User shall also repeat the sampling and analysis and submit the results of the repeat analysis to the City within thirty (30) days of becoming aware of the violation.



## Exhibit C

## Groundwater Discharge Monthly Reporting Log

Month: \_\_\_\_\_

[illegible]<sup>1</sup>GPM Limit (Gallons Per Minute)<sup>2</sup>GPD Limit (Gallons Per Day)



- Groundwater Discharge Monthly Log must be sent to:

Attn: Jennifer L. Moore  
PWD - Industrial Waste & Backflow Compliance  
1101 Market Street, 6<sup>th</sup> Floor  
Philadelphia, PA 19107  
Ph: 215-685-6085  
Email: [Jennifer.L.Moore@phila.gov](mailto:Jennifer.L.Moore@phila.gov)

- Email shall only be for notification of mailings and shall not be the final submission for any documentation.
- Any person signing a discharge log shall make the following certification: -

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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NAME - AUTHORIZED REPRESENTATIVE

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SIGNATURE

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OFFICIAL TITLE

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DATE