POST-REMEDIATION CARE PLAN

For

FORMER THOMAS & BETTS/ANSLEY FACILITY
1501 WEST PARK AVENUE
EAST ROCKHILL TOWNSHIP, BUCKS COUNTY
PERKASIE, PENNSYLVANIA 18944
EPA ID: PAD002498699

Prepared for:

ABB Installation Products, Inc.
45 Griffin Road South
Bloomfield, CT 06002

Prepared by:

Langan Engineering & Environmental Services, Inc.
1818 Market Street
Suite 3300
Philadelphia, PA 19103

December 2020
Langan Project No. 002529101

LANGAN

POST-REMEDIATION CARE PLAN

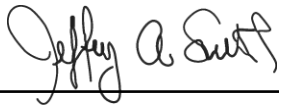
FORMER THOMAS & BETTS/ANSLEY FACILITY
1501 WEST PARK AVENUE
PERKASIE, BUCKS COUNTY, PENNSYLVANIA 18944
EPA ID: PAD002498699

Prepared for:

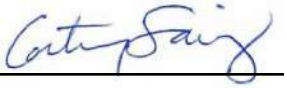
ABB Installation Products, Inc.
45 Griffin Road South
Bloomfield, CT 06002

Prepared by:

Langan Engineering & Environmental Services, Inc.
1818 Market Street
Suite 3300
Philadelphia, PA 19103



Jeffrey A. Smith, P.G.
Associate
P.G. No. PG002755G



Cortney Savidge, CHMM
Project Scientist

December 2020
Langan Project No. 002529101

TABLE OF CONTENTS

Page No.

1.0 INTRODUCTION 1
2.0 POST-REMEDIATION CARE PLAN 2
2.1 Points-of-Contact 4
2.2 Groundwater Cleanup Goals 4
2.3 Post-Remediation Care Groundwater Monitoring 5
2.4 Statistical Demonstration and Additional Corrective Action Protocol 8
2.5 Post-Remediation Groundwater Remediation System Operations and Maintenance 12
2.6 Post-Remediation Annual Inspection and Maintenance for Concrete Slab 13
2.7 System Failure and Corrective Action Notifications 14
3.0 ENVIRONMENTAL COVENANT 14
4.0 ANNUAL REPORTING AND PRIVATE WELL OWNER NOTIFICATION 15
5.0 FINANCIAL ASSURANCE/POST-REMEDIATION CARE COST ESTIMATE 17
6.0 REFERENCES 17

TABLES (EMBEDDED IN TEXT)

Table 1 Project Points-of-Contact
Table 2 Long-Term Groundwater Sampling Locations

FIGURES (ATTACHED)

Figure 1 U.S.G.S. Site Location Map
Figure 2 Site Plan
Figure 3 Long-Term Groundwater Sampling Plan

APPENDICES (ATTACHED)

Appendix A Environmental Covenant
Appendix B Operation & Maintenance Manual (Groundwater Remediation System)
Appendix C Concrete Building Slab Inspection Log

1.0 INTRODUCTION

This Post-Remediation Care Plan (PRCP) was prepared by Langan Engineering and Environmental Services, Inc. (Langan) on behalf of ABB Installation Products, Inc. (ABB IP) for the former Thomas & Betts Corporation (T&B) site located at 1501 West Park Avenue in Perkasie, East Rockhill Township, Bucks County, Pennsylvania ("Site," Figure 1). The ±4.88-acre industrial Site is comprised of one real estate parcel, identified as Bucks County Parcel #12-008-100-004. This PRCP was prepared in accordance with the Administrative Order on Consent, executed by T&B, now known as ABB IP, and the United States Environmental Protection Agency, Region 3 (USEPA) on August 17, 2001 (Consent Order).

This PRCP conforms to the USEPA's Final Decision and Response to Comments (FDRC), approved on September 29, 2015, and provides for the on-going operation, maintenance and monitoring of a groundwater extraction and treatment system and long-term sampling of groundwater from existing monitoring wells and select nearby private drinking water wells. The groundwater extraction system has operated at the Site since 1981, soon after the 1979 discovery of a release of trichloroethene (TCE). The requirements pertaining to long-term monitoring and hydraulic control of groundwater will be re-evaluated annually as part of the Annual Post-Remediation Care Report (see Section 4.0). If appropriate, and with approval from USEPA, the scope and frequency of the Final Remedy components may be reconsidered and revised if supported by the system performance and groundwater monitoring data. Any USEPA-approved changes to the PRCP will be documented in an addendum to this PRCP, to be retained by the USEPA.

In the FDRC, USEPA approved a Technical Impracticability (TI) Zone, which is a ±2.5-acre area of the Site where it is not practicable to achieve federal drinking water standards, known as Maximum Contaminant Levels (MCLs). Figure 2 (Site Plan) depicts an aerial view of the Site and includes the property boundary, the TI Zone boundary, and the groundwater monitoring wells. The USEPA-approved final remedy for groundwater involves maintaining control and containment of the dissolved groundwater plume and attainment of the MCLs beyond the TI Zone. To that end, APP IP rehabilitated and modified the groundwater extraction and treatment system in early 2019 to ensure the effectiveness of the remedy. Until June 2020, groundwater was extracted from two on-site former water supply wells, MW-4 and MW-5. Based on the results and analysis of aquifer test data and capture zone calculations completed in 2019, the pumping from former well MW-5 ceased and pumping began at well MW-6s to optimize the efficiency and overall effectiveness of the EPA-selected groundwater remedy while maintaining hydraulic control of the plume. As of June 26, 2020, pumping at MW-5 was discontinued and pumping at well MW-6s commenced.

ABB IP will monitor groundwater levels and groundwater quality at wells located beyond the TI Zone in accordance with the Post-Remediation Care Groundwater Sampling Plan described in Section 2.3.

ABB IP has completed multiple rounds of paired sub-slab soil gas and indoor air sampling to evaluate the vapor intrusion exposure pathway. Results have indicated that the soil gas beneath the building contains Volatile Organic Compounds (VOCs) of the magnitude that could potentially impact the indoor air of the on-Site office/warehouse building. Indoor air quality within the building remains dependent on the existing concrete slab, which, among other subgrade and building factors, prevents unacceptable risk to human health via the vapor intrusion pathway in the interior occupied building space. Therefore, maintenance and annual inspection of the concrete slab is required, in accordance with Section 2.6 of this plan. Additionally, if any modification, disturbance or penetration of the existing building slab or foundation is planned and/or if new construction is to be undertaken on the property, EPA shall be notified, and either installation of a vapor barrier or other approved vapor mitigation measures is required, or a proof satisfactory to EPA must be provided indicating that such vapor mitigation is not required.

This PRCP presents the routine operation and maintenance (O&M) and monitoring requirements for the ongoing operation of the Site groundwater extraction and treatment system. Also, as part of the final remedy for the Site, an Environmental Covenant (EC) was recorded on December 18, 2020 and establishes Activity and Use Limitations (AULs) and requirements for annual reporting and notification provisions to ensure the continued protection of human health and the environment. A copy of the recorded EC is included as Appendix A of this PRCP. Both the PRCP and the EC provide enforceable mechanisms for Site operations and USEPA authority after termination of the Consent Order.

2.0 POST-REMEDIATION CARE PLAN

EPA's approval of the established TI Zone is based on the determination that groundwater within the designated area cannot practicably meet the USEPA's MCLs. On-site wells outside of the TI Zone (perimeter monitoring wells) have demonstrated consistent compliance with the MCLs and are, therefore, located beyond the groundwater plume. One off-Site monitoring well, MW-7s, is located approximately 50 feet northwest of the northern corner of the Site and outside the TI Zone. To date, the TCE concentrations detected at this location remain above the MCL (5 micrograms per liter, µg/L); however, the extent of TCE in groundwater is delineated vertically (by MW-7i) and

in the down-gradient direction (at MW-8s and MW-8i). TCE concentrations at MW-7s have been stable to decreasing and will be monitored on a more frequent basis (e.g. quarterly for the first year of sampling with plans to further reduce the frequency thereafter, if supported by the data and approved by USEPA) than the other perimeter monitoring wells.

Hydrogeological conditions and groundwater quality will be monitored in accordance with this PRCP to ensure that the plume remains contained and does not migrate beyond its current extent, and that the remedy remains protective and effective. ABB IP selected sampling points for post-remediation care monitoring based on historic groundwater quality data from decades of sampling both monitoring wells and nearby private drinking water wells. Further details regarding the post-remediation groundwater sampling plan are presented in Section 2.3.

As described below, this PRCP includes requirements for the continued operation of the groundwater extraction and treatment system, ongoing groundwater monitoring, maintenance and annual inspection of the concrete building slab, and annual reporting to USEPA.

The PRCP includes the following elements:

1. Plume containment and mass removal via groundwater extraction using both extraction wells (MW-4 and MW-6s).
2. Annual groundwater elevation and contaminant concentration monitoring at select Site wells, including perimeter monitoring wells and the nearest private drinking water wells.
3. Maintenance and annual inspection of the concrete building slab.
4. Annual reporting of operations, maintenance, and monitoring results to USEPA.
5. Prohibition of future groundwater use (for potable water supply) at the Site.

Details regarding the ongoing monitoring, operations and maintenance related to the groundwater extraction and treatment system at the Site are provided in Sections 2.2 through 2.5 of the PRCP. Details regarding the annual inspection and maintenance requirements related to the concrete building slab are provided in Section 2.6. Notification requirements are presented in Section 2.7 of the PRCP.

The Final Remedy described in the FDRC and summarized in the PRCP and the EC will remain in place until USEPA agrees that the results of groundwater monitoring, fate-and-transport groundwater evaluation, or other data indicate that attainment of the groundwater MCLs outside

of the TI Zone can be maintained without the continued operation of the pump and treat system. ABB IP or the current Site owner may petition the USEPA to change or terminate these ongoing requirements in the future. Any changes to this PRCP will be documented in addenda, on record with the USEPA.

2.1 Points-of-Contact

Key project points-of-contact are presented below in Table 1.

Table 1
Project Points-of-Contact

Contact/Affiliation	Title	Contact Phone and Email	Address
Ms. Tran N. Tran USEPA Region III	RCRA Project Manager	(215) 814-2079 Tran.tran@epa.gov	1650 Arch Street, 3LD20 Philadelphia, PA 19103
Ms. Melody B. Christopher ABB IP, Inc.	Environmental Project Manager	(860) 462-3881 Melody.b.christopher@us.abb.com	45 Griffin Road South Bloomfield, CT 06002
Mr. Jeffrey A. Smith, P.G. Langan	Associate	(215) 845-8915 jsmith@langan.com	1818 Market Street, Suite 3300 Philadelphia, PA 19103

2.2 Groundwater Cleanup Goals

The groundwater cleanup goals outside the TI Zone are the USEPA federal MCLs for TCE, 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), 1,4-dioxane (no federal MCL has been established for 1,4-dioxane in drinking water, as footnoted below), and lead, which are as follows (in micrograms per liter, µg/L or parts per billion, ppb):

- TCE - 5 µg/L
- 1,1-DCE - 7 µg/L
- Cis-1,2-DCE — 70 µg/L
- *1,4-dioxane – 6.4 µg/L*[1]
- Lead – 15 µg/L

[1] The USEPA has not established an MCL for 1,4-dioxane. The value reported is the Pennsylvania Department of Environmental Protection (PADEP) Medium-Specific Concentration (MSC) for a Residential Used Aquifer with Total Dissolved Solids less than 2,500 milligrams per liter.

To demonstrate continued compliance with MCLs and hydraulic control of the plume, ABB IP will monitor eight monitoring wells for the Site contaminants of concern on an annual basis. Additionally, eight nearby (within 500 feet from the Site) private drinking water wells located on residential properties to the east, south and west of the Site will be monitored on an annual basis as part of post-remediation care. The specific wells targeted for monitoring are identified in Section 2.3.

The TI Zone monitoring wells, specifically MW-4, MW-5, MW-6s and MW-6i, will not be sampled annually as part of the ongoing site monitoring program. However, ABB IP will collect and analyze influent and effluent samples from the pumping wells (MW-4 and MW-6s) as part of the National Pollutant Discharge Elimination System (NPDES) Permit No. PA 0040321, which requires sampling submission of annual monitoring reports to the Pennsylvania Department of Environment Protection (PADEP) Clean Water Program.

For future monitoring, USEPA considers ongoing compliance with the groundwater cleanup goals to be a statistical demonstration that contaminant levels at the perimeter monitoring wells do remain stable and/or do not rise above MCLs, and that off-site potential groundwater users remain protected. Practically, this compliance goal can be demonstrated by maintaining the TI Zone at its approximate current footprint, or smaller. The statistical approach and monitoring wells presented below are designed to reflect this goal.

2.3 Post-Remediation Care Groundwater Monitoring

Annual post-remediation groundwater sampling will be conducted to monitor groundwater levels and groundwater quality outside the TI Zone boundary. One monitoring well, MW-7s, will be monitored on a quarterly basis to assess TCE concentration trends, as discussed in Section 2.4. ABB IP will measure and record groundwater elevations and sample and analyze the monitoring wells listed in Table 2 for TCE, 1,1-DCE, cis-1,2-DCE, 1,4-dioxane and lead. The analytical methods to be used for the analyses, and the Quality Assurance/Quality Control (QA/QC) samples that will be collected for each sampling event, are also presented in Table 2. The selected monitoring locations include eight monitoring wells located outside the boundary of the TI Zone, including four onsite and four offsite wells. Additionally, long-term monitoring will include annual sampling of eight nearby offsite private drinking water wells located along Park

Avenue and Ridge Road to the east, south, and west of the Site. The wells included in the long-term groundwater sampling plan are depicted on Figure 3.

Table 2
Long-Term Groundwater Sampling Locations

Well	Sampling Frequency	Sample Parameters and Analysis		
		TCE, 1,1-DCE, and cis-1,2-DCE (by 524.2 or SW846 8260C[1])	1,4-Dioxane (by SW846 8260C SIM or SW846 8270D SIM)	Lead (by SW846 6010D)
Perimeter Monitoring Wells				
MW-1R	Annual	✓	✓	✓
MW-2	Annual	✓	✓	✓
MW-3s	Annual	✓	✓	✓
MW-3i	Annual	✓	✓	✓
MW-7s	Quarterly	✓	✓	✓
MW-7i	Annual	✓	✓	✓
MW-8s	Annual	✓	✓	✓
MW-8i	Annual	✓	✓	✓
Private Drinking Water Wells				
RW-2	Annual	✓		
RW-3	Annual	✓		
RW-7	Annual	✓		
RW-8	Annual	✓		
RW-13	Annual	✓		
RW-18	Annual	✓		
RW-19	Annual	✓		
RW-36	Annual	✓		
QA/QC Samples				
Duplicate	One per event	✓	✓	✓
Field Blank	One per day	✓	✓	✓
Trip Blank	One per shipment	✓		

[1] *- Drinking water samples collected from the private drinking water wells shall be analyzed for the targeted VOCs by EPA Method 524.2. Groundwater samples from monitoring wells and QA/QC samples shall be analyzed for the targeted VOCs by EPA Method SW846 8260C.*

Sampling of the eight monitoring wells will be performed using the low-flow sampling method (EPA, Puls and Barcelona, 1996), consistent with historic sampling at the Site. The following points are important aspects of low-flow sampling that will be adhered to:

- The flow rate should be on the order of 0.1 to 0.5 liters per minute (L/min), with a goal to have minimal drawdown (<0.1 m) during purging;

- The sampler should record depth-to-water, purge rate, and indicator parameters (e.g., pH, redox potential, conductivity, dissolved oxygen (DO) and turbidity) every five minutes during purging; and
- Sample collection should occur after the indicator parameters and draw-down have stabilized to attain sample representativeness. Stabilization is achieved after all parameters have stabilized for three successive readings. Three successive readings should be within ± 0.1 for pH, ± 3% for conductivity, ± 10 mv for redox potential, and ± 10% for turbidity and DO.

Sampling of the eight nearby private drinking water wells will be completed in accordance with procedures and methods documented in the Interim Measures Workplan prepared by Langan on behalf of T&B in December 2001. Owners of the private wells shall be contacted prior to the planned sampling event to notify them of the upcoming sampling and schedule a sampling appointment. At each residence, the designated sampling point will be the tap that is nearest to the well, prior to any household treatment (e.g. carbon filters, water softeners, iron removal, pH adjustment, and disinfection), and prior to the storage/expansion tank (if present). Prior to sample collection, water is to be purged from a faucet for a minimum period of ten minutes to evacuate static water from the distribution system (piping and storage/expansion tank, if present). Water quality parameters and purge start and stop times should be recorded. Wearing disposable gloves (e.g. nitrile or latex), the sampler should collect the drinking water sample by directly filling laboratory-supplied and pre-preserved vials to a zero head space condition to prevent volatilization.

As indicated in Table 2, QA/QC samples will include: one duplicate groundwater sample per sampling event; one trip blank for each sample shipment to the laboratory; and one field blank for each day of sampling. The duplicate sample and field blank should be collected during sampling of the monitoring wells rather than the private drinking water wells.

All samples will be placed into a pre-chilled cooler and submitted under chain-of-custody documentation to a Pennsylvania-certified analytical laboratory. The drinking water samples collected from the private drinking water wells shall be analyzed for TCE, 1,1-DCE and cis-1,2-DCE by USEPA Method 524.2. The groundwater samples collected from the monitoring wells and the QA/QC samples shall be analyzed for TCE, 1,1-DCE and cis-

1,2-DCE by USEPA Method SW846 8260C. Samples collected from the monitoring wells and field blanks shall be additionally analyzed for 1,4-dioxane by USEPA Method SW846 8260C SIM or SW846 8270D SIM and lead by USEPA Method SW846 6010D.

Based on the results of the long-term groundwater sampling program described above, ABB IP may revise the frequency of sampling, the number of sampling points, or the analytical parameters, as appropriate and approved by USEPA. Any USEPA-approved changes to the PRCP will be documented in an addendum to this PRCP, to be retained by the USEPA.

2.4 Statistical Demonstration and Additional Corrective Action Protocol

Except for well MW-7s, the monitoring wells and private wells located beyond the TI Zone boundary have consistently had concentrations below the MCLs for groundwater monitoring events completed since 2008. The concentration of TCE at MW-7s, albeit above the MCL, is delineated vertically (by MW-7i) and in the down-gradient direction (at MW-8s). Further, it has been demonstrated by the historical data and interim measures sampling program that off-site receptors are not impacted by contaminant concentrations above USEPA's MCLs and there are no complete exposure pathways. ABB IP have been sampling private wells within a ¼-mile radius of the Site on a semi-annual basis since 2002. Additionally, a Human Health Risk Assessment (HHRA) was completed for vapor intrusion at the Site, and the HHRA findings indicate that groundwater impacts do not pose cancer or non-cancer risks to building occupants.

In late June 2020, ABB IP ceased pumping from extraction well MW-5 and converted monitoring well MW-6s to a pumping well to optimize contaminant mass removal while maintaining hydraulic control of the potential contaminant migration. As a prudent measure, and because of past TCE concentrations above the MCL, MW-7s will be sampled quarterly for one year after system optimization (i.e., July 2020 through July 2021). Additionally, all monitoring wells will be gauged to collect groundwater elevation measurements on a quarterly basis during this same period to assess hydraulic containment from the optimized pumping system. The quarterly TCE concentrations, historical data, and elevation measurements will be assessed to determine the appropriate frequency for future sampling of MW-7s and gauging of all monitoring wells. USEPA shall be provided with the monitoring and elevation data and agree to the proposed frequency for future monitoring of MW-7s after the first year.

Because post-remediation care includes groundwater sample collection from both perimeter monitoring wells and private drinking water wells, the following subsections present procedures to be followed in response to groundwater data evaluation.

Private Drinking Water Well Data Evaluation Protocol and Response Actions

The following sequential approach will be utilized for determining the appropriate action to enact based on the groundwater analytical results from the eight private drinking water wells to be sampled on an annual basis per this PRCP. For all scenarios, owners of the sampled private wells shall be provided the results of the sample collected from their well in accordance with Section 4.0.

1. Data quality will be assessed to determine validity and usability. If data are rejected for field or laboratory non-conformance, the data will be considered null and the affected well(s) will be resampled within two weeks of the data rejection determination, pending owner access.
2. If a validated analytical result is equal to or less than a value equal to one-half of the MCL, no further action (other than routine monitoring) is needed.
3. If a validated analytical result is greater than a value equal to one-half of the MCL but less than or equal to the MCL, trend analysis shall be completed using USEPA-approved statistical methods[2], such as linear regression, Mann-Kendall or Theil-Sen line test. If trend analysis indicates an increasing trend, the well will be monitored on a more frequent basis until a stable or decreasing trend is confirmed, at which time routine annual monitoring will resume. The frequency of the monitoring and the appropriateness of returning to routine monitoring will be discussed with and agreed to by USEPA.
4. If a validated analytical result is greater than the MCL, the owner of that well shall be notified immediately (within 24 hours) and the well will be re-sampled within 72 hours of receipt of the validated result, pending owner access, to confirm the concentration. Additionally, ABB IP will provide bottled water to the well owner until the result from the well resampling is received and confirmed to be below the MCL.
5. If the result from the resampling is equal to or below the MCL, Step 2. or Step 3. should be implemented depending on whether the result is less than, equal to, or greater than a value equal to one-half of the MCL.

6. If the result from the resampling is greater than the MCL, ABB IP shall present the affected well owner with corrective measure options, which may include but are not limited to one or more of the following actions, depending on the contaminant concentration and discussion with the owner: continuing to provide bottled water, monitoring the private well on a more frequent basis, installing an in-home treatment system (under-sink or point-of-entry-treatment, as warranted), and/or extending a public water connection to the affected property. For non-permanent remedies, the frequency or continuation of the corrective measure will be re-evaluated based on the private well water sample results. If public water connection is provided to the affected property, the private well shall be sealed in accordance with PA guidelines and local requirements.

Perimeter Monitoring Well Data Evaluation Protocol

In the event that there may be results for samples from the eight perimeter monitoring wells with concentrations above MCLs, such results are not necessarily a cause for immediate concern as there are natural hydrogeological factors, field sampling, and laboratory analytical factors to be considered and evaluated as potential causes for data variability. Provided that the groundwater extraction system is operating as intended, the abundant historical sampling and monitoring data offer assurances that there are no complete exposure pathways of concern and there is some tolerance for variability in sample results associated with an active groundwater remediation.

As future data are obtained, statistical analysis may be used for the TCE concentrations (e.g. at the MW-7s location) to assess potential data variability and ensure conditions remain protective. In accordance with established USEPA statistical methods[2], statistical demonstration may consist of parametric and nonparametric methods including but not limited to: outlier testing (e.g., Dixon's or Rosner's test), upper percentile tests (e.g., 95% Upper Confidence Limit (UCL)), and trend tests (e.g., linear regression, Mann-Kendall or Theil-Sen line test). Statistical analysis may offer a line of evidence to help determine if a change in concentration over time represents a statistically significant trend, and ultimately whether more frequent monitoring or other corrective action is warranted.

[2] US EPA (2009). *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance.* EPA/530/R-09-007.

Statistical Testing for Monitoring Wells

The following sequential approach will be applied for determining whether any monitoring well analytical result continues to demonstrate attainment with the cleanup goals with sufficiently high confidence, or whether additional evaluation is warranted:

1. Data quality will be assessed to determine validity and usability. If data are rejected for field or laboratory non-conformance, the data will be considered null and the affected well(s) will be resampled.
2. If the validated analytical result and/or the 95% UCL calculated based on the most recent 8 monitoring results are below the MCL, no further action (other than routine monitoring) is needed.
3. If the analytical result and the 95% UCL are above the MCL, applicable outlier and trend tests will be employed to determine if the change in concentration over time represents a statistically significant trend. If outlier and/or trend tests indicate that the concentration change is statistically insignificant, no further action (other than routine monitoring) is needed.
4. If industry standard and acceptable statistical test methods indicate that the change in concentration is statistically significant, the well will be re-sampled within two weeks of receipt of the validated analytical result to confirm the concentration.
5. If the result from the resampling and/or the 95% UCL calculated using the resampling result are below the MCL, routine monitoring would resume, and the initial result will not be used and substituted by the re-sampling result for use in the future statistical analyses.
6. If after the result and the 95% UCL remain above the MCL (using the re-sampling analytical result in place of the initial result), the well will be monitored more frequently until the 95% UCL drops below the MCL, at which time routine annual monitoring will resume. The frequency of the monitoring will be discussed with and agreed to by USEPA.

Additional Corrective Action Considerations

As necessary, additional corrective action may include re-evaluating the Site hydrogeologic conceptual model and assessing whether new pumping wells or changes in groundwater discharge (e.g. pumping) or recharge rates have occurred in the Site area. The additional corrective action may also include an evaluation of possible off-Site sources of contaminants, as appropriate, that could explain a change in groundwater elevation

and/or quality at the Site. Should this re-evaluation indicate that a change in the local hydrogeologic conditions is a contributing cause for an increased target constituent concentration, research and evaluation of potential off-site ecological or human receptors will be conducted to determine whether the apparent change in the groundwater conditions poses a newly identified threat to potential receptor(s).

This evaluation shall include a determination of whether additional response actions are necessary or appropriate. A notification followed by a report of corrective action activities, findings and any proposed additional actions shall be provided to the USEPA in accordance with the requirements in Section 2.6 (Notifications) and Section 4 (Annual Reporting) below.

2.5 Post-Remediation Groundwater Remediation System Operations and Maintenance

The USEPA-approved Final Remedy includes the continuous operation of the groundwater extraction and treatment system. IES Engineers, Inc. (IES) performs on-going operation and maintenance (O&M) of the groundwater extraction and treatment system for ABB IP.

Since 1982, the groundwater extraction system has consisted of two continuously pumping wells (MW-4 and MW-5, which were pre-existing water supply wells) and a counter-current air stripping tower. Discharge from the system is to Perkiomen Creek and is regulated under National Pollutant Discharge Elimination System (NPDES) Permit No. PA 0040321, which requires submission of annual monitoring reports to the Pennsylvania Department of Environment Protection (PADEP) Clean Water Program System. Operation of the system also requires permission from the Delaware River Basin Commission (DRBC) to withdrawal groundwater; the last 10-year permit application was approved in May 2012 (Permit No. 1991-061-3).

In 2018, significant calcification in the air stripping tower was found to be the cause of inefficient treatment and occasionally observed effluent exceedances. In early 2019, the air stripping tower was dismantled, refurbished, cleaned and repacked. Also, as an added treatment measure, liquid granular activated carbon vessels were added to the system after the air stripper for secondary effluent treatment, if needed, and a descaling system was installed to inhibit precipitation and clogging in the tower.

As of June 26, 2020, pumping at MW-5 was discontinued and pumping commenced at source area well MW-6s.

O&M consists of weekly inspections of the control panels, flow meters, pump room, stripper, and blower that are performed in accordance with Operations and Maintenance Manual, prepared by IES on behalf of ABB IP for the Site (O&M Manual). Additionally, the O&M Manual describes sampling and reporting requirements, in accordance with the DRBC and NPDES permits. The complete O&M Manual is included as Appendix B of this PRCP.

The extraction well system will remain in continuous operation and O&M activities will continue to occur at the frequencies identified in the O&M Manual until such time as USEPA approves changes to the required operation of the pump and treat system.

2.6 Post-Remediation Annual Inspection and Maintenance for Concrete Slab

In accordance with the AUL stipulated in the Environmental Covenant, an annual inspection is required to be completed at the Site to document the general condition and integrity of the existing concrete building slab. It is anticipated that the inspection will be completed in July of each year, during completion of the annual groundwater monitoring event. The extent of the building slab is depicted in Exhibit B of the Environmental Covenant included as Appendix A of this PRCP. The annual inspection for the building slab will consist of the following inspection activities:

- Visual inspection of the building slab to check for cracks, openings, concrete pitting, holes, concrete degradation, or new slab penetrations.

A standardized inspection form (see Appendix C) will be filled out during each inspection to document findings, including condition of the slab and maintenance/repairs required (if any). A brief photo log will also be appended to the inspection form. Any required maintenance of the building slab identified during an annual inspection will be documented and completed within 90 days. A list of maintenance activities will be kept and submitted to USEPA as part of annual reports (see Section 4.0 of this PRCP).

2.7 System Failure and Corrective Action Notifications

Groundwater Extraction and Treatment System Notifications

As described in the O&M Manual, the PADEP and USEPA Case Managers should be notified if the system malfunctions and results in an extended period of shut down (for more than 72 hours), whether the shut-down is planned or unplanned. Notification by email is preferred, and contact information for notification is provided in the O&M Manual. Notification should include the reason or cause of system shut-down. Follow-up notifications to the case managers should be sent upon system restart. The notification shall include such information as:

- Date of well/system malfunction/failure;
- Expected time frame for system repair/re-start and resumed operation; and
- Any contingencies or interim response actions to be taken, as necessary.

Periods of system non-operation will be documented in the annual groundwater monitoring report to be submitted to USEPA (see Section 4.0).

If untreated groundwater is inadvertently released to the environment, whether as a result of system failure or for any other reason, the USEPA and PADEP case managers shall be notified. Other applicable parties, and their contact information, are presented in the O&M Manual (Appendix B, Section 9.0).

Concrete Building Slab Inspection Notifications

If corrective actions are needed following the annual inspection of the existing concrete building slab, as described in Section 2.6, the USEPA will be notified by phone or electronic mail within 30 days of the inspection. The nature of the corrective action(s) and schedule for implementation will be provided as part of the notification. A second notification will be provided within 30 days of implementing the corrective action to document the work completed.

3.0 ENVIRONMENTAL COVENANT

An Environmental Covenant ("EC") was recorded for the Site as an institutional control to document certain Activity and Use Limitations, memorialize reporting and notification requirements, and ensure that the PRCP is implemented and able to be enforced by USEPA. The EC was recorded

by the Bucks County Recorder of Deeds on December 18, 2020 (Instrument Number 2020096650), and a copy of the EC is attached as Appendix A.

The EC references this PRCP and includes the following specific Activity and Use Limitations for the Site:

- the Site can be used only for non-residential purposes while groundwater remediation continues as required;
- the groundwater at the Site cannot be used as potable water and shall not be used or extracted for any purpose other than to conduct the operation, maintenance, and monitoring required by USEPA, unless it is demonstrated to USEPA, that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and USEPA provides prior written approval for such uses;
- the Facility property will not be used in a way that may adversely affect or interfere with the integrity and protectiveness of the final remedy, including, but not limited to the operation and infrastructure for the Pump and Treat System and associated wells and piping;
- the concrete slab shall be maintained and inspected annually in accordance with the requirements of the Post Remediation Care Plan, and, if any modification, disturbance or penetration of the existing building slab or foundation is planned and/or if new construction is to be undertaken on the property, EPA shall be notified, and either installation of a vapor barrier or other approved vapor mitigation measures is required, or a proof satisfactory to EPA must be provided indicating that such vapor mitigation is not required;
- a groundwater recovery and treatment system shall be operated and maintained to hydraulically control and contain the potential migration of TCE and related chlorinated degradation by-products in groundwater as required by the Post Remediation Care Plan approved by and on record with USEPA; and
- groundwater sampling shall be performed in accordance with the requirements of the Post Remediation Care Plan.

4.0 ANNUAL REPORTING AND PRIVATE WELL OWNER NOTIFICATION

Annual Post-Remediation Care Reports documenting the groundwater sampling, slab inspection, system operation, maintenance activities and any corrective actions conducted pursuant to the Environmental Covenant and this PRCP shall be prepared and forwarded to the USEPA. The annual

groundwater gauging and sampling and concrete slab inspection will be conducted in July of each calendar year. The Annual Post-Remediation Care Report will be submitted on or before January 31st of each year. In accordance with the EC, the Annual Post-Remediation Care Report shall include written affirmation that the activity and use limitations in the EC (see Section 3.0) are being abided by and any actions taken to assure compliance in any given calendar year. Reports will be submitted by ABB IP or the then current owner of the Site.

The Annual Post-Remediation Care Report shall include the following information:

- Sampling event dates, wells sampled, and general observations (e.g., well condition).
- Summary of analytical results and data comparison to previous groundwater sampling events, including comparing the well results to the MCLs.
- Summary of groundwater extraction and treatment system functionality and O&M repairs performed over the year period of performance.
- Summary of extraction well system compliance with NPDES and DRBC permit requirements, including average flow rates and influent and effluent contaminant concentrations.
- A discussion of general groundwater quality trends and any observed changes in groundwater quality at the Site.
- The results of any necessary re-evaluations of the Site hydrogeology (e.g., revised fate-and-transport groundwater flow model, capture zone analysis), as appropriate.
- The results of the annual inspection to assess the integrity of the concrete building slab and any corrective measures that were implemented as a results of the inspection.
- Each Annual Post-Remediation Care Monitoring Report will have attachments, including a groundwater gauging and elevation summary table (monitoring wells only), a groundwater analytical data summary table, a groundwater elevation contour map (monitoring wells only), a groundwater results figure, low-flow sampling records (monitoring wells only), full laboratory reports, and the concrete slab inspection form with appended photo log.

An electronic version and one hard copy of the Annual Post-Remediation Care Report will be sent to the EPA case manager.

If Additional Corrective Action (pursuant to Section 2.4) is required at the site, the USEPA will be notified, and will be provided an opportunity to review proposed corrective actions before final

implementation.

Upon data validation of the private well groundwater analytical results, the results from each well shall be provided to the owner of that well via certified mail or hand delivery. Owners shall not be provided results from wells other than the well located on their property.

5.0 FINANCIAL ASSURANCE/POST-REMEDIATION CARE COST ESTIMATE

ABB IP or the then current owner of the Site shall provide a Financial Assurance Report annually that provides an updated cost estimate for the continued implementation of the Post-Remediation Care Plan, and any other associated costs associated with the continued operations, monitoring, and maintenance of the groundwater extraction and treatment system. The report shall also provide financial assurance regarding the availability of funds to continue the remedial activities at the Site. The Financial Assurance Report shall be submitted in conjunction with the Annual Post-Remediation Care Report and shall be submitted to the USEPA by the end of January of each year.

6.0 REFERENCES

IES Engineers, Operation and Maintenance Manual for Groundwater Remediation System at Former Thomas & Betts Site, Perkasie, PA, October 25, 2019.

Interstate Technology Regulatory Council (ITRC), Groundwater Statistics and Monitoring Compliance, December 2013.

Langan, Data Collection Quality Assurance Plan for Former Thomas and Betts/Ansley Facility, Perkasie, PA, December 14, 2001.

Langan, Final Corrective Measures Study Report, Former Thomas & Betts/Ansley Facility, Perkasie, PA, July 8, 2015 (Revised).

Langan, Interim Measures Workplan for Former Thomas and Betts/Ansley Facility, Perkasie, PA, December 14, 2001.

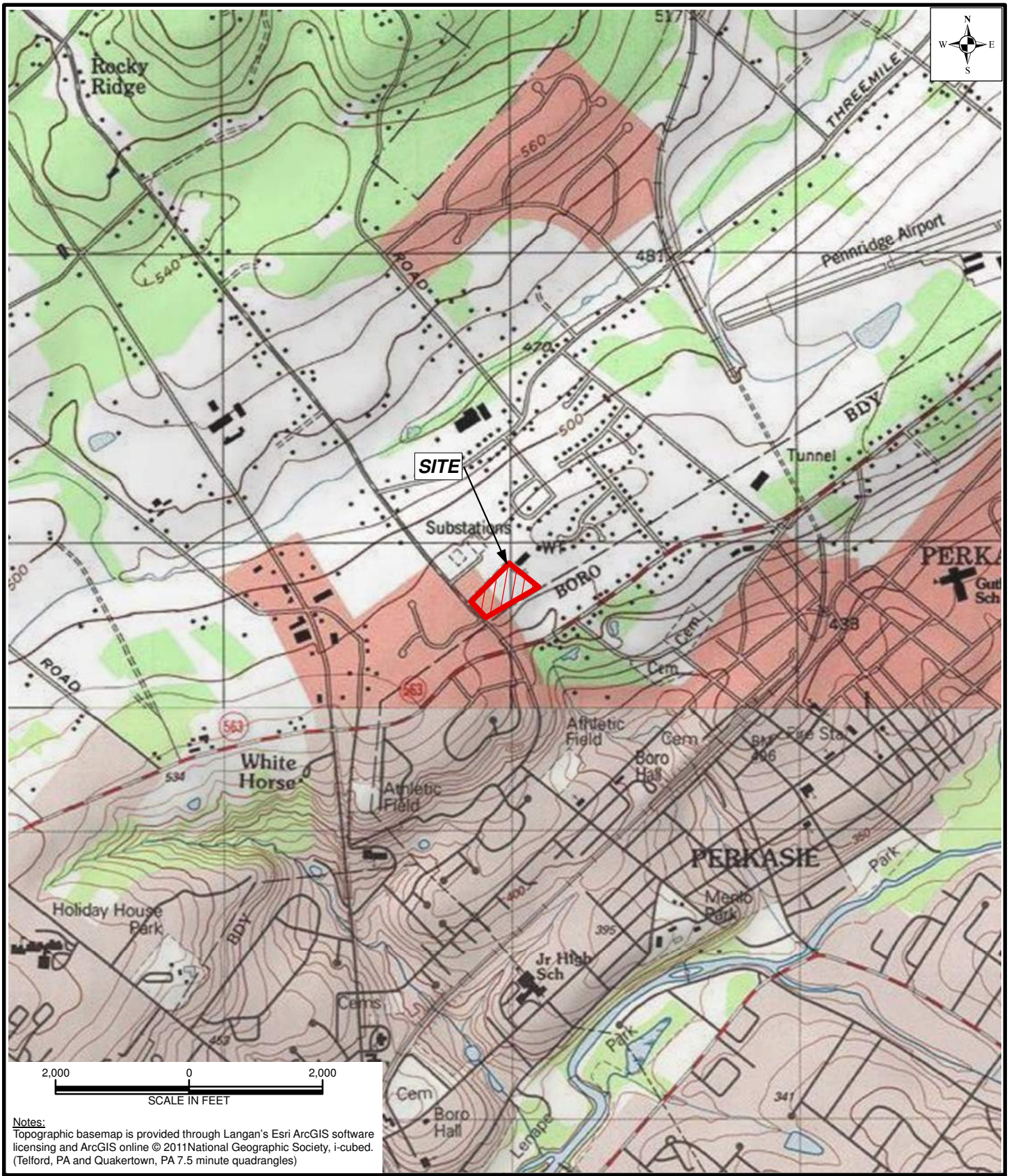
Puls, Robert W., and Barcelona, Michael J., Low-Flow (Minimal Drawdown) Groundwater Sampling Procedures, EPA OSWER Ground Water Issue, EPA/540/S-95/504, April 1996.

United States Environmental Protection Agency, Final Decision and Response to Comments, Thomas and Betts Corporation, Perkasie, PA (EPA ID No. PAD002498699), September 29, 2015.

United States Environmental Protection Agency, Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities (Unified Guidance), EPA 530-R-09-007, March 2009.

\\langan.com\data\PH\data1\2529101\Office Data\Reports\2020-12 Post-Remediation Care Plan\2020.12.28_T&B Perkasie_PRCP_Final.docx

FIGURES



Notes:
Topographic basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online © 2011National Geographic Society, i-cubed. (Telford, PA and Quakertown, PA 7.5 minute quadrangles)

LANGAN
1818 Market Street, Suite 3300
Philadelphia, PA 19103
T: 215.845.8900 F: 215.845.8901 www.langan.com

Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC

Collectively known as Langan

Project
FORMER THOMAS AND BETTS ANSLEY FACILITY
PERKASIE
BUCKS COUNTY PENNSYLVANIA

Drawing Title
SITE LOCATION MAP

Project No.	2529101
Date	11/26/2019
Scale	1"=2,000'
Drawn By	MH
Submission Date	
Figure	1

Path: \\langan.com\data\PH\data1\2529101\ArcGIS\MapDocuments\Revised CMS 2015\Figure 1 - Site Location Map_2-13-15.mxd Date: 11/26/2019 User: mhagan Time: 11:19:39 AM

Legend

- Abandoned Well
- Shallow Bedrock Wells
- Intermediate Bedrock Wells
- Recovery Wells
- Parcel_Boundaries

LANGAN

1818 Market Street, Suite 3300
Philadelphia, PA 19103-3638
T: 215.845.8946 F: 215.845.8901 www.langan.com

Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC

Collectively known as Langan

Project

FORMER THOMAS & BETTS ANSLEY FACILITY

PERKASIE

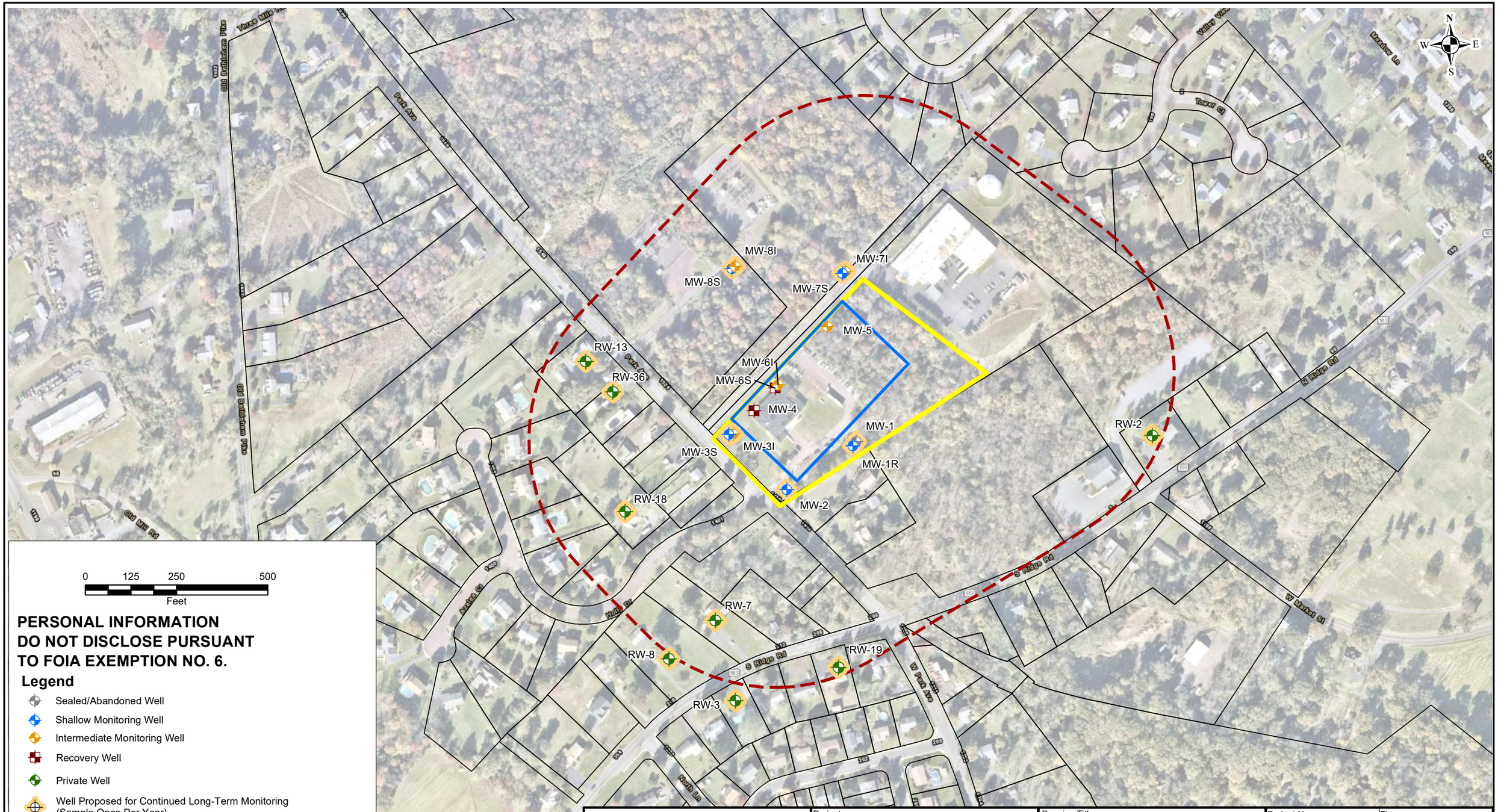
BUCKS PENNSYLVANIA

Drawing Title

SITE PLAN

Project No. 2529101	Figure 2
Date 7/9/2020	
Scale 1"=50'	
Drawn By JR	
Submission Date	Sheet ### of ###

Path: \\langan.com\data\PHL\data1\2529101\ArcGIS\MapDocuments\Figure X - Monitoring Well Locations_8-18-20.mxd



0 125 250 500

Feet

PERSONAL INFORMATION DO NOT DISCLOSE PURSUANT TO FOIA EXEMPTION NO. 6.

Legend

- Sealed/Abandoned Well
- Shallow Monitoring Well
- Intermediate Monitoring Well
- Recovery Well
- Private Well
- Well Proposed for Continued Long-Term Monitoring (Sample Once Per Year)
- Technical Impracticability Boundary
- 500 Ft. Raduis of Subject Property Boundary
- Subject Property Boundary

Notes:
1. Aerial provided by Nearmap.com, dated 10/30/2018.
2. The majority of private well locations are approximate, shown centered within the tax parcel or over the dwelling.

LANGAN

1818 Market Street, Suite 3300
Philadelphia, PA 19103-3638
T: 215.845.8900 F: 215.845.8901 www.langan.com

Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC

Collectively known as Langan

Project

FORMER THOMAS AND BETTS/ ANSLEY FACILITY

PERKASIE

BUCKS COUNTY PENNSYLVANIA

Drawing Title

LONG-TERM GROUNDWATER SAMPLING PLAN

Project No. 2529101	Figure 3
Date 7/9/2020	
Scale 1"=250'	
Drawn By HJD	
Submission Date	

Path: \\langan.com\data\PHL\data1\2529101\ArcGIS\MapDocuments\PRCP\Figure 1 - Long Term GW Sampling Plan_8-19-20.mxd

APPENDICES

Appendix A
Environmental Covenant

BUCKS COUNTY RECORDER OF DEEDS

55 East Court Street
Doylestown, Pennsylvania 18901
(215) 348-6209

Instrument Number - 2020096650
Recorded On 12/18/2020 At 1:51:40 PM *** Total Pages - 10**
*** Instrument Type - DEED AGREEMENT - NO PROPERTY TRANSFER**
Invoice Number - 1136959 **User - KLJ**
*** Grantor - SCHWARTZIE L P**
*****
*** Customer - LANAGAN**
*** FEES**

RECORDING FEES	$88.75
TOTAL PAID	$88.75

Bucks County UPI Certification
On December 18, 2020 By TF

This is a certification page

DO NOT DETACH

This page is now part of this legal document.

RETURN DOCUMENT TO:
LANAGAN

I hereby CERTIFY that this document is recorded in the Recorder of Deeds Office of Bucks County, Pennsylvania.

THE RECORDERS OFFICE OF THE BUCKS COUNTY, PA.

Robin M. Robinson

Robin M. Robinson
Recorder of Deeds

*** - Information denoted by an asterisk may change during the verification process and may not be reflected on this page.**

17C627

CERTIFIED PROPERTY IDENTIFICATION NUMBERS
12-008-100--004 - E ROCKHILL TWP
CERTIFIED 12/18/2020 BY TF

When recorded, return to:
Attn: Melody B. Christopher
ABB Installation Products, Inc.
45 Griffin Road South
Bloomfield, CT 06002

The County Parcel Identification No. of the Property is: 12-008-100-004.
GRANTOR: Schwartzie LP
PROPERTY ADDRESS: 1501 West Park Avenue, Perkasie, PA 18944

ENVIRONMENTAL COVENANT

This Environmental Covenant is executed pursuant to the Pennsylvania Uniform Environmental Covenants Act, Act No. 68 of 2007, 27 Pa. C.S. §§ 6501 – 6517 (UECA). This Environmental Covenant subjects the Property identified in Paragraph 1 to the activity and/or use limitations in this document. As indicated later in this document, this Environmental Covenant has been approved by the United States Environmental Protection Agency (EPA).

1. **Property affected**. The property affected (Property) by this Environmental Covenant is located in the Township of East Rockhill, Bucks County.

The postal street address of the Property is: 1501 West Park Avenue, Perkasie, PA 18944. The latitude and longitude of the center of the Property affected by this Environmental Covenant is: 40.378562/-75.307189.

The facility name and EPA ID number for this Property are: THOMAS & BETTS, PAD002498699. The Property has been known by the following name: Former Thomas & Betts/Ansley Facility.

A complete description of the Property is attached to this Environmental Covenant as Exhibit A. A map of the Property is attached to this Environmental Covenant as Exhibit B.

2. **Property Owner / GRANTOR**: Schwartzie LP is the owner of the Property and the GRANTOR of this Environmental Covenant.

The mailing address of the owner is: 2063 Lockerbie Road, Schwenksville, PA 19473.

3. **Holder / GRANTEE**. The following is the GRANTEE and a "holder," as that term is defined in 27 Pa. C.S. § 6502, of this Environmental Covenant:
ABB Installation Products, Inc. (ABB IP), 45 Griffin Road South, Bloomfield, CT 06002.

4. **Description of Contamination and Remedy**. The facility, formerly known as the Thomas & Betts (T&B) Ansley Electronics and Ansley Manufacturing

facility, manufactured printed circuit boards from 1966 to 1986. Historical operations during this time period are associated with impacts to the soil and groundwater. Both groundwater and soils on-site are known to be impacted with Trichloroethene ("TCE"). Since 1981, a groundwater remediation program has been in place at the property. The groundwater remediation system includes groundwater extraction from two on-site wells, groundwater treatment via a counter-current air stripper (primary) and granular activated carbon (secondary, as needed), and discharge of treated groundwater to a tributary to the East Branch of the Perkiomen Creek pursuant to National Pollutant Discharge Elimination System ("NPDES") Permit No. PA0040321.

Targeted removal of soils impacted with both TCE and 1,1,1-Trichloroethane ("TCA") occurred in November 1984. Approximately 225 cubic yards (362 tons) of TCE-contaminated soil was removed from the former drum storage area. The excavation was then backfilled using clean fill. Certain impacted soils were left in place due to the proximity to a utility pole.

On September 29, 2015, EPA issued a Final Decision and Response to Comments (FDRTC) for Corrective Action. This FDRTC described the activity and use limitations and the engineering controls, monitoring, and recordkeeping for the Property required by EPA's selected Corrective Action. EPA's Final Remedy includes: establishment of a Technical Impracticability (TI) Zone with long-term groundwater monitoring and reporting of contaminants of concern and hydraulic control of groundwater; continued operation, maintenance and monitoring of the groundwater remediation system; compliance with and maintenance of groundwater use restrictions to be implemented through institutional controls; and, if building modification or new construction are proposed, assessment of the potential for vapor intrusion and, if necessary, implementation of mitigation measures. The FDRTC states that remediation of soils at the Property is complete without controls. A Post-Remediation Care Plan, detailing the engineering and monitoring requirements, processes, and reporting has been approved by EPA.

The FDRTC, Administrative Record for the Final Decision, and the Post-Remediation Care Plan are located at the EPA Region 3 office. Additional background records pertaining to the contamination and remedy are also available. Copies can be obtained by contacting EPA Region 3 using any of the options in Section 12 of this Covenant.

The FDRTC and Post Remediation Care Plan are available online at:
https://www.epa.gov/hwcorrectiveactionsites/documents-reports-and-photographs-thomas-and-betts-corporation-perkasie

5. **Activity and Use Limitations**. The Property is subject to the following activity and use limitations, which the then current owner of the Property, and its tenants, agents, employees and other persons under its control, shall abide by:

(a) The Property can be used only for non-residential purposes while groundwater remediation continues as required;

(b) The groundwater at the Property cannot be used as potable water and shall not be used or extracted for any purpose other than to conduct the operation, maintenance, and monitoring required by EPA, unless it is demonstrated to EPA, that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and EPA provides prior written approval for such uses;

(c) The Facility Property will not be used in a way that may adversely affect or interfere with the integrity and protectiveness of the final remedy, including, but not limited to the operation and infrastructure for the Pump and Treat System and associated wells and piping;

(d) A groundwater recovery and treatment system shall be operated and maintained to hydraulically control and contain, within the TI Boundary, TCE and related chlorinated degradation by-products in groundwater that exceed Maximum Contaminant Levels (MCLs) as required by the Post Remediation Care Plan approved by and on record with EPA (copy also to be added to EPA's webpage for the Facility, and a copy also to be maintained at the Facility);

(e) Groundwater sampling shall be performed in accordance with the requirements of the Post Remediation Care Plan; and

(f) The existing concrete building slab prevents unacceptable risk to human health in the interior occupied building space from the vapor intrusion exposure pathway. If any modification, disturbance or penetration of the existing building slab or foundation is planned and/or if new construction is to be undertaken on the property, EPA shall be notified, and either installation of a vapor barrier or other approved vapor mitigation measures is required, or a proof satisfactory to EPA must be provided indicating that such vapor mitigation is not required. The concrete slab shall be maintained and inspected annually in accordance with the requirements of the Post Remediation Care Plan.

These Activity and Use Limitations shall be binding upon the Property until such time as this Environmental Covenant is terminated in accordance with Section 10, below.

6. **Notice of Limitations in Future Conveyances**. Each instrument hereafter conveying any interest in the Property subject to this Environmental Covenant shall contain a notice of the activity and use limitations set forth in this Environmental Covenant and shall provide the recorded location of this Environmental Covenant.

7. **Compliance Reporting**. After written request by the EPA or by the end of every January following the EPA's approval of this Environmental Covenant, the then current owner of the Property shall submit, to the EPA and any Holder listed in Paragraph 3, written documentation stating whether the activity and use limitations in this

Environmental Covenant are being abided by. In addition, within one month after any of the following events, the then current owner of the Property shall submit, to the EPA and any Holder listed in Paragraph 3, written documentation: noncompliance with the activity and use limitations in this Environmental Covenant; transfer of the Property; changes in use of the Property; or filing of applications for building permits for the Property and any proposals for any site work, if the building or proposed site work will affect the contamination on the Property subject to this Environmental Covenant.

8. **Access by EPA [and the Department]**. In addition to any rights already possessed by EPA, this Environmental Covenant grants to EPA a right of reasonable access of the Property after proper notice to the current owner in connection with implementation or enforcement of this Environmental Covenant.

9. **Recording and Notification of Recording**. Within 30 days after the date of EPA's approval of this Environmental Covenant, the Grantor shall file this Environmental Covenant with the Recorder of Deeds for each County in which the Property is located and send a file-stamped copy of this Environmental Covenant to EPA within 60 days of recording. Within that time period, the Grantor also shall send a file-stamped copy to each of the following: Township of East Rockhill; Bucks County; ABB Installation Products, Inc.; and Schwartzie LP.

10. **Termination or Modification**.

(a) This Environmental Covenant runs with the land unless terminated or modified in accordance with 27 Pa. C.S. §§ 6509 or 6510, or in accordance with this paragraph.

(b) The Post Remediation Care Plan may be amended upon written agreement by the Grantor and EPA, as appropriate based on technical data considerations.

(c) The then current owner of the Property shall provide EPA written notice of the pendency of any proceeding that could lead to a foreclosure, as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of the pendency of such proceeding.

(d) In accordance with 27 Pa. C.S. § 6510(a)(3)(i), Grantor hereby waives the right to consent to any amendment or termination of the Environmental Covenant by consent; it being intended that any amendment to or termination of this Environmental Covenant by consent in accordance with this Paragraph requires only the following signatures on the instrument amending or terminating this Environmental Covenant: (i) the Holder at the time of such amendment or termination; (ii) the then current owner of the Property; and (iii) EPA.

11. **Notification and Enforcement**

(a) Notification. The then current owner shall provide the Department written notice of:

(1) the pendency of any proceeding that could lead to a foreclosure as referred to in 27 Pa. C.S. § 6509(a)(4), within seven calendar days of the owner's receiving notice of the pendency of such proceeding;

(2) any judicial action referred to in 27 Pa. C.S. § 6509(a)(5), within seven calendar days of the owner's receiving notice of such judicial action;

(3) any judicial action referred to in 27 Pa. C.S. § 6509(b), within seven calendar days of the owner's receiving notice of such judicial action; and

(4) termination or amendment of this Environmental Covenant pursuant to 27 Pa. C.S. § 6510, within seven calendar days of the owner's becoming aware of such termination or amendment.

(b) Enforcement. A civil action for injunctive or other equitable relief for violating this Environmental Covenant may be maintained by the Department.

12. **EPA and the Department addresses**. Communications with EPA regarding this Environmental Covenant may be sent:

US EPA Region III
1650 Arch Street
Philadelphia, PA 19103
215-814-5000 (800-438-2474 in Pennsylvania)

Ms. Tran Tran (3LD20)
Phone: (215)-814-2079
Email: tran.tran@epa.gov

Email request to: R3_RCRAPOSTREM@epa.gov

Subsequent submissions required by this Environmental Covenant shall be sent to the Region 3 RCRA Corrective Action digital repository for institutional control and reporting documents mailbox: R3_RCRAPOSTREM@epa.gov. Include the EPA RCRA Facility ID number in the subject line. The facility name and EPA ID number for this Property are: THOMAS & BETTS, PAD002498699.

Communications with the Department regarding this Environmental Covenant shall be sent to:

PA Department of Environmental Protection
Southeast Regional Office

Environmental Cleanup and Brownfields
2 East Main Street
Norristown, PA 19401

13. **Severability**. The paragraphs of this Environmental Covenant shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

ACKNOWLEDGMENTS

Date: Nov 9, 2020

Schwartzie, LP, Grantor
By: _____
Name: Michael J. McGrory
Title: Owner

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF Montgomery) SS:

On this 9 day of November, 2020, before me, the undersigned officer, personally appeared Michael McGrory [Owner, Grantor] who acknowledged himself/herself to be the person whose name is subscribed to this Environmental Covenant, and acknowledged that s/he executed same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

Commonwealth of Pennsylvania - Notary Seal
ERIC BALIBAN - Notary Public
Montgomery County
My Commission Expires Jul 15, 2023
Commission Number 1291955

Date: 10/15, 2020

ABB Installation Products, Inc., Grantee
By: _____
Name: Keith Knauerhase
Title: Assistant Secretary

STATE OF CONNECTICUT)
)
COUNTY OF Hartford) ss: Bloomfield

On this 15 day of October, 2020, before me, the undersigned officer, personally appeared Keith Knauerhase [Holder, Grantee] who acknowledged himself/herself to be the person whose name is subscribed to this Environmental Covenant, and acknowledged that s/he freely executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

PATRICIA MARIE KELLY
NOTARY PUBLIC OF CONNECTICUT
My Commission Expires 1/31/2022

_____
Notary Public

APPROVED, by the United States Environmental Protection Agency

Date: 11.27, 2020

John A. Armstead
Director
Land, Chemicals and Redevelopment Division
United States Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103

COMMONWEALTH OF PENNSYLVANIA)
)
COUNTY OF PHILADELPHIA) SS:

On this 27th day of November, 2020, before me, the undersigned officer, personally appeared John A. Armstead, who acknowledged himself to be the person whose name is subscribed to this Environmental Covenant, and acknowledged that he freely executed the same for the purposes therein contained.

In witness whereof, I hereunto set my hand and official seal.

_____
Notary Public

Commonwealth of Pennsylvania - Notary Seal
David P. Coleman, Notary Public
Philadelphia County
My commission expires October 1, 2023
Commission number 1028932
Member, Pennsylvania Association of Notaries

EXHIBIT A – DESCRIPTION OF PROPERTY

ALL THAT CERTAIN tract of land situate in the Township of East Rockhill, County of Bucks, State of Pennsylvania, bounded and described according to a survey and plan by Eckert & Malone, civil Engineers and Land Surveyors, Sellersville, Pennsylvania, dated July 14, 1966, as follows, to wit:

BEGINNING at a point, said point being the intersection of the east side of Park Avenue and the centerline of Ridge Road, thence along the east side of Park Avenue North forty-two degrees fifty-three minutes West, a distance of four hundred thirty-six and eighty-six one-hundredths feet (N 42° 53' W 436.86') to an iron pipe, said iron pipe being the true place of beginning; thence continuing along the east side of Park Avenue North forty-three degrees five minutes West, a distance of two hundred fifty-nine and ninety-eight one-hundredths feet (N 43° 05' W 259.98') to an iron pipe, a corner in line of other lands of Harmon R. Lutz, Grantor; thence along line of lands of Harmer R. Lutz the following two (2) courses and distances: (1) North forty-five degrees zero minutes twenty-eight seconds East, a distance of six hundred feet (N 45° 00' 28" E 600.00') to an iron pipe, a corner; (2) South fifty degrees fifty-nine minutes East, a distance of four hundred twenty-five and seventy-one one-hundredths feet (S 50° 59' E 425.71') to an iron pipe, a corner in line of land of David M. Longacre; thence along line of land of David M. Longacre South fifty-nine degrees four minutes West, a distance of six hundred seventy-three and twenty-six one-hundredths feet (S 59° 04' W 673.26') to an iron pipe, the place of Beginning.

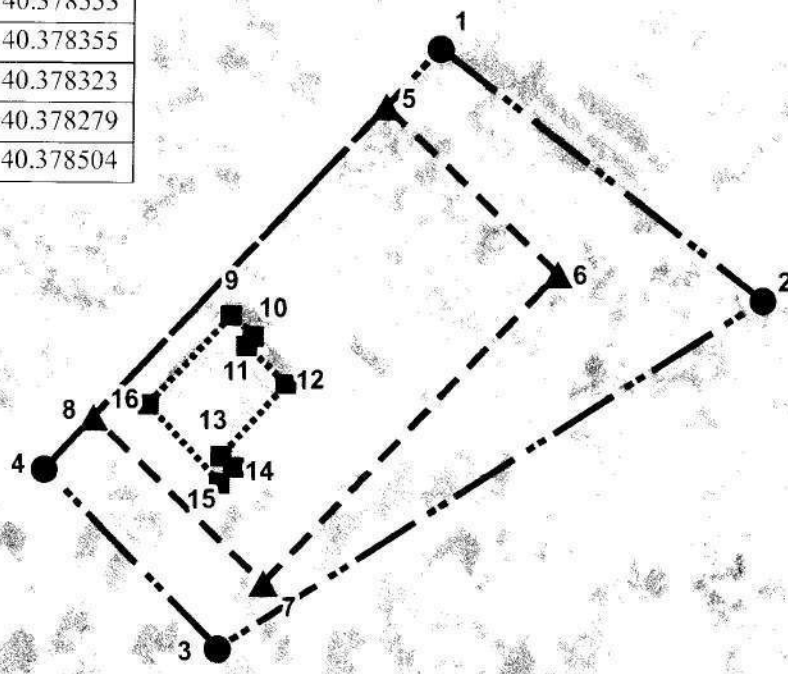
CONTAINING 4.880 Acres of Land, more or less. **ALSO being known as Bucks County Parcel No. 12-8-100-4**

TOGETHER with a perpetual right-of-way only to use as a 20 foot wide roadway or driveway, which driveway is described as follows:

BEGINNING at an iron pipe on the Northeasterly side of Park Avenue, said point being the two following courses and distances from the intersection of the east side of Park Avenue and the centerline of Ridge Road: (1) along the east side of Park Avenue North 42 degrees 53 minutes West a distance of 436.86 feet to an iron pipe and (2) continuing along the east side of Park Avenue North 43 degrees 5 minutes West a distance of 259.98 feet to an iron pipe; thence extending from said point of beginning and along said side of Park Avenue North 43 degrees 05 minutes West 20.01 feet to a point in line of lands now or late of Suburban Cable T.V. Co., Inc.; thence extending along the same North 45 degrees 00 minutes 28 seconds East 600 feet more or less to a point in line of lands now or late of Harmer R. Lutz; thence extending along the same South 50 degrees 59 minutes East 20 feet more or less to a point in line of lands; late of MNOP Group, Inc.; thence extending along the same South 45 degrees 00 minutes 28 seconds West 600 feet to the first mentioned point and place of beginning.

BEING the same premises which Bucks County Industrial Development Corporation, a Pennsylvania non-profit corporation, by Deed dated the 30th day of September, 1985, and recorded in the Office for the Recording of Deeds in and for the County of Bucks at Doylestown, Pennsylvania, in Deed Book 2668, page 1087, granted and conveyed unto Thomas & Betts Corporation, in fee.

	Coordinate Table (WGS 1984)		
	Label	Longitude	Latitude
Site	1	-75.306359	40.379497
	2	-75.305168	40.378765
	3	-75.307236	40.377809
	4	-75.307876	40.378329
TI Zone	5	-75.306564	40.379336
	6	-75.305936	40.378851
	7	-75.307063	40.377992
	8	-75.307689	40.378472
Building Slab	9	-75.307163	40.378752
	10	-75.30708	40.378693
	11	-75.307107	40.378665
	12	-75.306961	40.378553
	13	-75.30721	40.378355
	14	-75.307164	40.378323
	15	-75.307218	40.378279
	16	-75.307481	40.378504



Legend

- Building Slab Vertices (see table for coordinates)
- TI Zone Vertices (see table for coordinates)
- Site Boundary Vertices (see table for coordinates)
- Building Slab Boundary
- TI Zone
- Property Boundary

200 0 200

SCALE IN FEET

Notes:
1. Aerial photography is provided by Nearmap.com, dated 10/30/2018.

LANGAN
1818 Market Street, Suite 3300
Philadelphia, PA 19103-3638
T: 215.845.5946 F: 215.845.8901 www.langan.com

Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan

Project
FORMER THOMAS AND BETTS/ ANSLEY FACILITY
PERKASIE
BUCKS COUNTY PENNSYLVANIA

Drawing Title
BOUNDARY MAP: PROPERTY, TI ZONE AND BUILDING SLAB

Project No.	2529101
Date	2/6/2020
Scale	1"=200'
Drawn By	HJD
Submission Date	

Exhibit
B

Path: \\langan.com\data\PH\data1\2529101\ArcGIS\MapDocuments\2019 Env Covenant\Figure X - TI Zone Env Covenant Update_2-6-20.mxd Date: 2/6/2020 User: hdubinsky Time: 2:09:29 PM

Appendix B

Operation & Maintenance Manual

(Groundwater Remediation System)

LANGAN

OPERATION

&

MAINTENANCE

MANUAL

ABB INSTALLATION PRODUCTS INC.
FORMER THOMAS & BETTS SITE
Groundwater Remediation System
Perkasie, Pennsylvania

PREPARED BY: IES ENGINEERS

DATE: .....August 21, 2020
REVISED……. December 22, 2020
IES PROJECT NUMBER EV200352.03

TABLE OF CONTENTS

1.0 BACKGROUND 1

1.1 History 1

2.1 Objectives 1

2.0 REGULATORY REQUIREMENTS 2

2.1 Monitoring 2

2.2 Reporting/Notification Requirements 2

3.0 SYSTEM DESCRIPTION 3

4.0 CONTROLS 9

5.0 TREATMENT SYSTEM OPERATIONS 10

5.1 Air Stripping 10

6.0 SYSTEM SHUTDOWNS 12

7.0 MAINTENANCE SCHEDULE AND REQUIREMENTS 13

7.1 Filter Replacement 10

7.1.1 Task 1 - Normal Operation 14

7.1.2 Task 2 – Normal System Operation with Carbon Polishing 15

7.1.3 Task 3 – Normal System Operation with Additional Connections 16

7.1.4 Task 4 – Operation of Carbon Only During Stripper Maintenance 17

7.2 Air Stripping Tower 18

7.3 Recovery Wells 18

7.4 Routine Monitoring (DMR Sampling) 19

7.5 Long Term Maintenance and Repair 19

8.0 LOCK OUT/TAGOUT 19

9.0 EMERGENCY ACTIONS 20

9.1 Emergency Contacts 20

9.2 Spill/Leak Response 20

ATTACHMENTS

ATTACHMENT A Permits

ATTACHMENT B Figures

Figure 1 – Groundwater Recovery and Treatment System – Well Locations
Figure 2 – Equipment Layout in Treatment Room
Figure 3 – Flow Diagram – Normal Operation
Figure 4 – Flow Diagram – Normal Operation with Carbon Polishing
Figure 5 – Flow Diagram – Normal Operation with Additional Connections

ATTACHMENT C Tables

Table 1 – Equipment List and Specifications

ATTACHMENT D ABB Perkasie Field Forms

1.0 BACKGROUND

1.1 History

The former Thomas & Betts Ansley Corporation (T&B), currently known as ABB Installation Products (ABB) located at 1501 West Park Avenue, East Rockhill Township, Perkasie, Bucks County, Pennsylvania previously operated as a producer of circuit boards. In the production of the circuit boards a degreasing solvent known as Trichloroethylene (TCE) was used during daily manufacturing. In early 1979 it was found that TCE, a carcinogen is a common contaminant in groundwater in Bucks County, and bordering Montgomery County. A sampling program was initiated by the Bucks County Health Department and the Pennsylvania Department of Environmental Resources to survey local sources of TCE in the surrounding counties. The EPA has established a Maximum contaminant Level (MCL) of TCE under the Safe Drinking Water Act, this requires a concentration of under 0.005 (mg/l) or 5 parts per billion (ppb). In November 1979 it was found that approximately 9.8 ppm of TCE was detected in one of the Sellersville (bordering the town of Perkasie) municipal water wells. Private wells also were sampled around Bucks and Montgomery county to locate possible sources of TCE contamination.

It was determined from sampling the on-site wells in 1980 that T & B had elevated levels of TCE contamination up to 1800 ppm and was found to be the source of TCE in the immediate area. SMC-Martin was contracted by T & B to evaluate the TCE contamination to the soil and groundwater surrounding the site. An abatement plan was established for the removal of the source of contamination around the drum storage area (approximately 362 tons of soil), recovery of the contaminated ground water, and supplying the plant with potable city drinking water. To contain the plume of contamination and to monitor the natural path of groundwater on the site, three additional monitoring Wells No. 1, No.2, and No. 3 were installed. Through bi-monthly sampling and using isoconcentration maps it was determined that the plume was contained on site except for the Ackerman Residence likely due to fracture patterns in the bedrock. Existing supply wells No. 4 and No. 5, with the highest concentrations of contamination, were chosen as the continuous pumping wells for the groundwater recovery and treatment system to remove the TCE and associated volatile organic chemicals from the groundwater on site. A counter-current air stripping tower was then installed in 1982 to remove the contaminants from the groundwater pumping wells onsite and to discharge clean treated water into the neighboring Perkiomen Creek.

Groundwater is pumped from recovery wells No. 4 and No. 6s that are located on site. As of June 25, 2020, No. 6 replaced the former pumping well No. 5 to enhance contaminant removal, maintain the capture zone, and potentially reduce the solids problems associated with well No. 5.

1.2 Objectives

ABB, previously known as T & B currently operates a groundwater recovery and air stripping system at the former Perkasie, Pennsylvania site to remediate the Trichloroethylene (TCE) and associated volatile organic contamination on site and prevent their migration in the groundwater. A counter-current air stripping tower has been used to remove contaminants from the groundwater since 1982 and the treatment system has been improved by the addition of a carbon polishing system in 2019.

Water from the two wells is pumped into the treatment system through a combined influent line to the top of the tower A blower forces air up through the column that is filled with 1-inch Jaeger TriPack media as the water flows downward, resulting in removal of the volatile organic compounds. This system contains the groundwater contamination at the site and removes contaminant mass from the groundwater.

The objective of this Operation and Maintenance Manual is to provide documentation of the system components and the required maintenance tasks.

2.0 REGULATORY REQUIREMENTS

The USEPA requires that the treated effluent from the system be discharged in accordance with all federal, state, and local laws. All appropriate permits were obtained for the operation of the recovery and treatment system including a National Pollution Discharge Eliminations System Permit No. PA-0040321 from the Pennsylvania Department of Environmental Protection (PADEP) and a groundwater withdrawal permit from the Delaware River Basin Commission (DRBC). ABB Installation Products in Perkasie PA operates the groundwater withdrawal under the Protected Area Permit No. 61-91-61 P.A. from the DRBC with a withdrawal limit not to exceed 1.32 million gallons during any 30-Day Period for Well No. 4 and Well No. 5. In addition, Wells No. 4 and No. 5 shall not exceed 1.364 MGM and 16.37 MGY. An application for permit modification has been submitted (**Attachment A**) to reflect the cessation of pumping well PW-5 and replacement with well MW-6S.

Under existing regulations, the PADEP does not require an air permit for the air emissions from the air stripper. Copies of the PADEP and DRBC permits are included in **Attachment A**.

2.1 Monitoring Requirements

Treated discharge from the air stripper system is regulated by NPDES Permit no. PA-0040321 under the Pennsylvania Department of Environmental Protection. ABB is required to submit monthly data including system effluent results for trichloroethylene (TCE). Results from samples of the system influent and effluent are required to be to be tested quarterly for TCE, Perchloroethylene (PCE), and 1,1,1 trichloroethane (TCA). Additionally, quarterly ground water levels are taken in each of the monitoring wells on site. Flow data with average and total monthly withdrawals is monitored and is submitted annually to the Delaware River Basin Commission.

TCE concentrations in the system effluent are required to be below 3 parts per billion (ppb) or micrograms per liter (µg/L), with an instantaneous maximum of 36 (µg/L) as specified in the NPDES permit.

2.2 Reporting/Notification Requirements

The PADEP Case Manager Mr. C. David Brown and USEPA RCRA Case Manager Ms. Tran Tran should be notified if the system shuts down due to power outages or other uncontrollable causes. The Case Manager should be notified in advance if the system is to be shut down for an extended period for routine maintenance and repair tasks. Notification should also be made when the system is returned to service. Contact information is provided below.

NPDES permit monitoring results are required to be reported to PADEP monthly. Details are included in Section 7.4. The link to the PADEP site for the electronic submission of Discharge Monitoring Reports (DMRs) is:

http://www.depgreenport.state.pa.us/pls/apex/

Tran Tran - USEPA Case Manager
RCRA Project Manager
United States Environmental Protection Agency (3HS22)
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

David Brown
Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401-4915
cdbrown@pa.gov
Office: (484) 250-5900

Additionally, Melody B. Christopher at ABB Environmental must be notified of non-routine (maintenance) shutdowns:

ABB Inc.
45 Griffin Road South
Bloomfield, CT 06002 United States
Mobile: 860 462 3881

3.0 SYSTEM DESCRIPTION

The groundwater recovery and treatment system includes two groundwater recovery wells identified as PW-4 and PW-6s. The locations of these wells are shown on **Figure 1** in **Attachment B**. Well PW-4 is located approximately 20-feet outside the northwest wall of the room where the treatment system is located. Well PW-6S is located approximately 100-feet northeast of well PW-4 adjacent to the building within the paved area. Well PW-4 was a former supply well for the plant that was converted to groundwater recovery purposes after the facility was connected to the municipal water supply.

The known construction details of the two pumping wells are shown below:

WELL	TOTAL DEPTH* (ft)	CASED INTERVAL	WELL DIAMETER	YEAR DRILLED	PUMPING RATE (gpm)
PW-4	215	0-33	6”	1967	3
PW-6S	138	0-30	6”	2008	3

**Well PW-4 was originally 450’ deep until recently grouted to a shallower depth. PW-6S was a replacement for the previous pumping well PW-5.*

A table listing the system equipment and specifications is identified as **Table 1** and included in **Attachment C**. The groundwater recovery and treatment system are equipped with an automated alarm system that is monitored by Tyco International and reported to IES. Separate alarms are generated for complete system shut down, single well shut down, the presence of water on the floor, or communications difficulties.

The effluent lines from the two wells are equipped with mechanical flow meters and the meter readings are recorded weekly. Well PW-6S is equipped with a Variable Frequency Drive (VFD) and a pressure sensor to reduce the pumping rate if back pressure builds due to clogging of the bag filter. The VFD is located on the wall just above the filter housing for well PW-6S.

Variable Frequency Drive and shut off at well PW-6S. Formerly PW-5.

Shut off switch on well PW-4

Piping from the wells runs underground and enters the building through openings in the concrete floor in the treatment system room.

The groundwater treatment system consists of a strainer and bag filter for sediment removal from each well followed by a counter-current air stripping tower (air stripper) for removal of volatile organic compounds (VOC) from the discharge from both pumping wells. A carbon polishing system was added in April 2019 to allow continued discharge during air stripper maintenance events. When the carbon system was added the piping was modified to permit flow through the stripping tower followed by carbon polishing or bypassing of the stripping tower and only using carbon treatment.

As shown on **Figure 1**, the air stripper is located at the western corner of the building within the room where all treatment system equipment is located. The general layout of the equipment in the treatment system room is shown on **Figure 2**. Schematic diagrams of the flow options that the system is capable of are provided as **Figures 3** through **6**.

Sediment filters

The filtration system consists of two (2) Hayward filter vessels that hold filter bags. PW-4 uses a 5-micron filter bag and PW-6S uses a 25-micron filter bag. The filter bag for PW-6S is changed every week to every month as part of the weekly maintenance while PW-4 filter is changed once a month.

Filter and strainer system for well PW-4.

Filter housing for well PW-6S. PW-5 is no longer pumped, PW-6S has replaced this vessel and is labeled.

Air Stripping Tower

The air stripper was designed for a flow of 30 gpm with a tower efficiency greater than 99%. The tower is 24 inches in diameter and 26-feet high from the concrete pad to the top of the tower. The tower is constructed of ¼ inch thick steel. There is an 18-foot-high packed zone within the tower that contains approximately 56.5 cubic feet of 1-inch polypropylene Jaeger tri-packs.

The air stripper is designed so that the water is discharged into the top of the tower above the packing material and flows downward to the outlet, while the air from the blower enters below the packing and flows upward toward the outlet at the top of tower. The system is equipped with a sensor that shuts down the well pumps if air flow is diminished or lost.

View of lower portion of air stripper tower.

View of upper portion of air stripper.

After discharge from the stripping tower, the water drains into a plastic holding tank from where it flows to the discharge pipe under normal operating conditions. The discharge pipe extends out of the building underground to a manhole adjacent to Park Avenue at the entrance to the parking lot. From this manhole it runs along Park Avenue within the sewer right-of-way to a second manhole and eventually passes under Ridge Road and discharges in the drainage ditch before flowing into the Three Mile Run.

Carbon Adsorption System

A carbon adsorption system was added in March 2019 for effluent polishing or separate treatment if needed. The carbon adsorption system is currently configured with two Carbtrol two-stage liquid treatment trains. Each train consists of two L-1, 200-pound carbon units piped together in series. Each train is capable of handling flows up to 10 gpm. The two trains can handle flows up to 20 gpm and piping has been installed to permit operation of up to three, two stage trains with a total capacity of 30 gpm.

After passing through the stripping tower the effluent discharges to a 300-gallon plastic tank, from where the effluent would normally discharge out of the building and through the final effluent line to surface water. A valve was installed in the lower effluent line from the tank that can be closed when the effluent is directed through the carbon treatment. This maintains a higher level of water in the tank so that the pump can operate more efficiently. A variable speed pump operated by a variable frequency drive (VFD), level controls in the tank, and a pressure sensor, pumps the tower effluent through the carbon adsorption units. The effluent from the carbon units is then connected to the final effluent line.

The controls are set so that the carbon units cannot be over pressurized as the pressure sensor will shut the entire system down. Pressure gauges are provided on the initial carbon units and sampling ports are present after the first and second carbon units. Schedule 80 PVC piping was used for all the flow paths through the carbon except the flexible connections at the carbon units. Influent and effluent manifolds are provided for up to three trains as shown in the photographs below.

Carbon system showing influent manifold, pump, VFD, and carbon drums.

Carbon system showing carbon drums and effluent manifold.

Electronic Descaler

In order to prevent the extreme calcification of the stripping tower media previously encountered, an electronic descaling system was installed on the influent piping to the stripping tower. The system was installed by mounting the panel on the wall and attaching the wire wrap on the 2-inch copper combined influent line to the air stripping tower as shown in the photographs below.

Electronic descaling system control box.

Wire coil for electronic descaler on 2-inch influent pipe.

The system is plugged into a 110-volt electrical outlet and requires no maintenance and uses a minimal amount of electricity. The system creates a rapidly changing alternating current. The current is sent through a coil of wire wrapped around the pipe generating an oscillating magnetic field with the pipe. The rapid oscillation of the magnetic field creates a molecular agitation in the water passing through the field. The system does not remove the calcium carbonate but prevents it from precipitating out. The system will protect the piping and stripping tower and may reduce precipitation in the underground effluent pipe that discharges to surface water below the site. An additional electronic descaling system can be added to the effluent pipe if further monitoring indicates a benefit.

Investigation Derived Water Treatment

The system piping has been modified to provide the ability to introduce water generated from sampling and well testing into the treatment system. Water can be introduced into a port prior to the strainer and bag filter on well PW-6S or through ports inside the room near the stripping tower and one extending through the wall to the building exterior. Water can be pumped into the system from the exterior port directly to the stripping tower or through the strainer and bag filter by attaching a jumper hose between the two connection points.

View of piping for introduction of investigation derived water into treatment system.

Exterior connection for introduction of investigation derived water into treatment system.

4.0 CONTROLS

As noted in Section 3.0 well PW-6S is equipped with a VFD to control the flow rates from the well and prevent elevated pressurization if the filter is blocked. Well PW-6S is turned on via a control knob on the VFD control box. Well PW-4 is not equipped with a VFD but does have a mechanical pressure control device to shut the pump off if excessive pressures occur. The power switch for well PW-4 is a lever type switch on the box mounted above the filter for well PW-4. The box is labeled with the well number.

The blower power is controlled by a circuit breaker in the box mounted above the carbon system. The wells can also be turned off using the circuit breakers in this box. The main circuit breaker panel for the entire room is located on the wall above the filter for well PW-4.

The carbon system is operated by a VFD mounted on the wall adjacent to the breaker panel above the carbon system.

5.0 TREATMENT SYSTEM OPERATIONS

5.1 Air Stripping

The system operates continuously without the need for an operator or continuous attention. Routine tasks (detailed in Section 7.0 and Section 8.0) include weekly inspections to make sure that the system is functioning properly and to change the filters, as necessary.

The approximate well flow rates are as shown below. The total flow rate is not to exceed the rated capacity of the air stripper at 30 gpm.

WELL	PUMPING RATE (gpm)
PW-4	1.5-3
PW-6S	2.5-3

6.0 SYSTEM SHUTDOWN (ROUTINE/NON-ROUTINE)

Other than the weekly maintenance. when planned or unplanned system shutdown occurs, ABB or its representative provides immediate notification via email to the EPA Project Manager and PADEP. They also notify the EPA Project Manager upon completion of repairs or return of electrical service that the system has been restarted. Periodic shutdowns for system maintenance or due to power failures are permitted and are not a violation of the Consent Decree.

The system can be shut down and restarted using controls on the VFD panel for well PW-6S and the power shut off just above the filter for well PW-4. The entire system including the blower can be controlled from the circuit breaker panel on the wall above the VFD for the carbon unit to the left of the air stripping tower.

Currently, notification to the EPA project manager is provided by Melody Christopher of ABB. Copies of the emails, and if not included in the emails, a brief description of the cause of system shutdown and any maintenance or repairs performed during the quarter are included in the quarterly reports filed with US EPA discussed in Section 7.0.

7.0 MAINTENANCE SCHEDULE AND REQUIREMENTS

Major maintenance tasks performed on the groundwater recovery and treatment system in the past have included replacement of well pumps, cleaning and repacking of the tower, and the routine jetting of the discharge pipe. Prior to performing any significant tasks at the site, the property owner must be notified.

Routine and non-routine maintenance items that have been performed are summarized in the following table.

Maintenance Task	Dates Performed	Performed By	Description
Pump replacement PW-4	11/2018	Mayers Well Drilling	Submersible pump replaced
Pump replacement PW-5	03/2017	Mayers Well Drilling	Submersible pump replaced
Piping and Wire Replaced	03/2017	Mayers Well Drilling	Piping & wiring from

Maintenance Task	Dates Performed	Performed By	Description
PW-5			well to building
Tower refurbishment and packing replacement	03/2019	IES/Haines and Kibblehouse	Tower refurbished, repainted and packing replaced
PW-4 and PW-5 grouted to 200ft depth.	08/2019	IES/Langan	Langan grouted PW-4 and PW-5 to 200 asl
PW-4 Pump Replacement	03/2020	IES/Eichelbergers	Pump Replacement for PW-4 at 186ft
PW-5 Replaced by PW-6s	06/25/2020	IES/Eichelbergers	Pump from PW-5 removed and placed into PW-6s

Routine Inspection/Monitoring	Interval	By Whom
Inspect the Control Panels, verify system operation is normal, no alarm indication and perform maintenance.	Weekly	IES
Inspect the two flow meters. Verify flow values for each well are within normal parameters.	Weekly	IES
General inspection of the pump room, power normal, lighting normal, floors are dry and access to the system is good.	Weekly	IES
Inspect Stripper (Exterior) – visual inspection normal operation	Weekly	IES
Inspect Blower – visual inspection normal operation	Weekly	IES
Water Sampling	Monthly/Q	IES

The system should be inspected weekly to make sure that it is operational and that the wells are pumping at the desired rates. If the system is not functioning, the cause should be investigated. The most likely causes for system shut down are power outages, and failure of the blower. The system will turn back on automatically after a power outage unless a circuit breaker is tripped. If necessary, it can be restarted by checking the circuit breakers and the switch for each pump after a power failure. Failure of the blower is typically due to breakage of the belt, which should be replaced on an annual basis. Should the belt fail it can be replaced and the system restarted. There are several grease fittings on the blower that should be greased at least semiannually.

Should one well shut down, the remainder of the system will continue to operate. A well shut down may be due to a tripped circuit breaker, other electrical issue, or failed pump.

7.1 Filter Replacement

Detailed instructions on the Normal Operations of the Air-Stripper system are provided below (Section 7.1.1 Task 1- Normal Operation) Once the weekly Normal Operation monitoring has been completed in Step 4 (Section 7.1.1 Task 1- Normal Operation) the changing of the filter bags in each of the wells must be completed. PW-6S appears to have water chemistry similar to PW-4 and less iron-oxide residuals than had been present in PW-5. Filters are changed when the back pressure on the filters increases and flow decreases. PW-4 contains significantly fewer residual precipitates and uses the 5-Micron filter bags which are changed monthly. The filter bag in PW-6S is currently being replaced twice a month using the 25-Micron filter bags provided on site. Prior to the bag filters, each well is equipped with a metal mesh basket strainer that must also be emptied and cleaned thoroughly at the time of filter changes. Monitor these filter vessels for any anomalies or change in accumulation of the precipitates.

7.1.1 TASK 1 – NORMAL OPERATION

1. **Perform the weekly monitoring by recording the flow readings of both PW-6S and PW-4 and recording them on the Total Flow Meter Readings and Weekly Field Readings sheet provided next to the VFD on the clipboard.** Using a stopwatch, time each well for 1 minute of flow and record the calculated flow rate in GPM for each of the wells.

2. **Shutdown Wells PW-4 and PW-6s.** This will stop the wells from pumping and stop the flow through the filter bags. PW-4 has a switch located above the corresponding filter labeled for on/off operation. The PW-6S on/off dial is located above the corresponding filter vessel on the VFD.

3. **Close both Green Water Valves** – Located at the end of the pipes where the flows from PW-4 and PW-6S connect to the filter system.

4. **Observe that all flow has stopped.** Observe that all flow has halted from the wells by viewing the flow meters. Open the air vent on the top of the filter housing to release any residual pressure.

5. **Change Filter Bags as needed in PW-4 and PW-6S** – Using the appropriate 25 Micron Filter bags in PW-6S and the 5 Micron Bags in PW-4. PW-6S is changed bi-weekly and PW-4 is changed once a month. Make sure to release pressure from each of the filter caps before removing.

6. **Open both Green Water Valves** – Located on the pipes between where the flows from PW-6S and PW-4 exit the filter system and the pipes combine from both wells prior to entering the stripper.

7. **Turn on Wells PW-4 and P W-6s.** This will allow the wells to pump normally through the air stripper system.

8. **Observe that flow has been returned to the wells.** Observe the flow meters for the corresponding wells to make sure flow has been restored. Bleed the air out of the top of the housing for each filter.

9. **Complete the Weekly Maintenance** record readings from well flow meters, the magnehelic gauge, and the tachometer into the field forms provided to complete the weekly maintenance.

A Flow Diagram for the Normal Tower Operation is provided on **Figure 3** in **Attachment B.**

7.1.2 TASK 2 – Normal System Operation with Carbon Polishing

Starting with the pumping wells and air stripper operating – follow the steps listed below.

1. **Open Valves for Carbon Drum #1 and Carbon Drum #2** These are orange valves located adjacent to the first set of clear tubing, attached to the main water tank.

2. **Open Main Influent to the Carbon Drums** This will allow flow to reach the previous valves and enter the carbon system.

3. **Open Valves at the end of the Carbon System** These are typically open. These can be left open when the valves for Carbon Drum # 1, Carbon Drum #2, and the drum influent are closed.

4. **Close the Main Tank Effluent** The main tank effluent is located behind the air stripper tower. It is a large orange valve connected to the highest effluent line connected to the main water tank.

5. **Turn on the VFD for the pump connected the Carbon System by pressing the green button.** This will allow the pump located adjacent to the main water tank to be able to function. Once the float in the main water tank reaches a certain level, the pump will turn on and will take on the effluent flow through the carbon drums.

6. **Observe the clear tubing** Observe the tubing to confirm that the pump is receiving the effluent flow. You can also observe the digital pressure gauge near the influent carbon valve that will indicate there is flow.

   A Flow Diagram for the Normal Tower Operation with the Carbon Effluent is provided on **Figure 4** in **Attachment B.**

7.1.3 TASK 3 – Normal System Operation with Additional Connections

THIS TASK IS TO BE COMPLETED WHEN THE WELL PUMPS HAVE BEEN TURNED OFF AND TOTAL FLOW CONSIDERED!

With recent improvements to the treatment system outside flows from investigation derived water including well purge water can be treated through the system. Use the effluent option for the desired treatment between the normal system operation and the carbon effluent.

A Flow Diagram for the Normal Tower Operation with the exterior connections is provided in **Figure 5** in **Attachment B.** There are three piping connections that can be used to introduce approved water into the system for treatment. One port is located on the outside wall of the building, the second is just inside the door, and the third is located on the line from well PW-6S just prior to the strainer and bag filter housings. All the pipe connections are equipped with 1.5-inch Camlock fittings. An adapter is also provided for connection of a garden hose to the Camlock fittings.

If the water is to be introduced prior to the filter a hose can be connected either directly to the connection prior to the filter or the hose can be connected to the exterior connection and the jumper hose (located in the room) used to run from the connection near the door to the connection prior to the filter. All valves between the point of introduction and filter would then need to be opened. The valve between the pressure tank and external connection must be closed.

Water from the external input can also be sent directly through the carbon system and bypass the stripping tower by closing the overhead valve that prevents flow to the air stripper and opening the valve for direct flow to the carbon system.

7.1.4 TASK 4 – Operation of Carbon Only During Stripper Maintenance

Starting with the pumping wells and air stripper operating – follow the steps listed below.

1. **Open Valves for Carbon Drum #1 and Carbon Drum #2** These are orange valves located adjacent to the first set of clear tubing, attached to the main water tank.

2. **Open Main Influent to the Carbon Drums** This will allow flow to reach the previous valves and enter the carbon system.

3. **Open Valves at the end of the Carbon System** These are typically open. These can be left open when the valves for Carbon Drum # 1, Carbon Drum #2, and the drum influent are closed.

4. **Close the Main Tank Effluent** The main tank effluent is located behind the air stripper tower. It is a large orange valve connected to the highest effluent line connected to the main water tank.

5. **Turn on the VFD for the pump connected the Carbon System by pressing the green button.** This will allow the pump located adjacent to the main water tank to be able to function. Once the float in the main water tank reaches a certain level, the pump will turn on and will take on the effluent flow through the carbon drums.

6. **Observe the clear tubing** Observe the tubing to confirm that the pump is receiving the effluent flow. You can also observe the digital pressure gauge near the influent carbon valve that will indicate there is flow.

7. Shut the valve to the air stripper in the combined influent line and open the valve to direct flow directly to the carbon system.

8. Shut down the blower/fan.

7.2 Air Stripping Tower

The Air Stripping Tower uses a counter-flow design with a cylindrical tower containing a designed packing media that provides a large surface area for air/water contact. Contaminated water flows down through the packing while air flows upward. VOCs or other contaminants are transferred from the contaminated water stream to the air stream, which then exits out through the top of the tower. Clean water flows out at the bottom of the tower.

The portion of the influent piping to the air stripper tower located above the roof is fitted with electric heat trace to protect against low temperature conditions. The heat trace is self-regulating and has insulation covering.

Routine maintenance to the Air Stripping Tower includes:

Visual inspection of the packing every 6 months.

Annual inspection of the heat trace for safe operation of the tower.

Visual inspection of the air stripping tower during site visits.

Monthly grease/lubrication of the blower bearings

Visual inspection of the fan during visits, noting any significant increase in fan noise, integrity of the connection between the fan and the air stripping tower and fan mounts.

Annual replacement of fan belts.

7.3 Recovery Wells

The recovery wells PW 4 and PW 6S each should require minimal maintenance and any maintenance would be determined via routine inspections. Periodic pump replacement is the primary well related task.

7.4 Routine Monitoring (DMR Sampling)

In accordance with the NDPES Permit and DRBC Permit, monthly sampling is conducted of the effluent at the stripper tower which serves as the PADEP compliance point. The untreated water from wells PW-4 and PW-6S and the combined flow from wells PW-4 and PW-6S are sampled quarterly. The compliance point is the effluent from the stripper or the carbon if both are in use. The monthly samples are analyzed for trichloroethene (TCE) and tetrachloroethylene/perchloroethylene (PCE) using EPA Method 624. The quarterly samples are also analyzed for 1,1,1-TCA. These samples are collected by IES in laboratory prepared 40 ml vials fixed with hydrochloric acid. The samples are returned to IES's Blue Bell, PA office where they are picked up by a laboratory courier. The samples are maintained in an iced cooler with chain-of-custody documentation. Field pH is also measured in the water samples. The pH is reported quarterly via a Discharge Monitoring Report (DMR) filed electronically with the PADEP.

7.5 Long Term Maintenance and Repair

The primary long-term equipment repair and replacement tasks completed are shown in the table below.

Description	Timing	Last Maintenance
Blower	20 Years	Motor and bearings replaced
Tower Packing	5 Years	March 2019
Carbon Booster Pump	30 Years	March 2019 new
Carbon Units	Variable	March 2019
Well Pumps	1-4 years	PW-4(08/2020), PW-6s(2017),
Instrumentation Components	30 Years	NA
Electronic Descaler	15 Years	March 2019

There is a potential for the need to replace the air stripping tower due to corrosion and erosion of the steel over the long term. The system has been operating for approximately 30-years and could continue to be required for an indefinite period in the future, based upon remaining contaminant levels. However, it is not currently possible to project the timing for tower replacement. It is not required at this time.

8.0 LOCK OUT/TAG OUT

In order to provide complete system, lock out the breakers for the entire room may be shutoff and the box secured. Individual controls for the well pumps for PW 4 and PW 6S, are located on the box above the well PW-4 filter and on the VFD for PW 6S. Power to the individual wells and the blower may also be shut down using the individual circuit breakers in the panel located on the wall above the carbon system. These may be secured to lock out the individual well pumps.

9.0 EMERGENCY ACTIONS

9.1 Emergency Contacts

IES Engineers	Michael Haezebrouck	610-828-3078 o 724-516-6561 c
IES Engineers	Rick Sacks	610-828-3078 o 610-316-7878 c
ABB	Melody Christopher	860-462-3881 c
Blooming Glen Contractors Inc.	System Repairs	267-642-0926
Walton Electric	Electrician – Electrical Repairs	610-633-3343
Eichelbergers Drilling	Well Pump Replacement	717-766-4800
Mayers Well Drilling	Well Pump Replacement	610-489-1802
Department of Environmental Protection	Environmental Emergency Response	484-250-5900
PADEP – Environmental Cleanup and Brownfields	David Brown	484-250-5792
EPA Project Manager	Tran Tran	215-814-2079
Property Owner - ServPro	Kristen Carroll	215-536-7989

9.2 Spill/Leak Response

In the event of a leak or accidental release of untreated groundwater please contact Emergency Contact personal in the order which they are provided. A current spill response plan has not been authorized or completed for the ABB Perkasie site. Appropriate personal protective equipment (PPE) is located on site within the air-stripper room across from PW-4.

ABB Installation Products has an automated overflow detection system for the carbon passthrough and a leak detection in the form of a water sensor on the floor at the base of the sump containment. The system has the capability to shut down a single well pump and/or the entire system, depending on the location of the alarm condition. It also provides for local indication of the failure. Alarm instances are reported via Johnson Controls (JCI) through ADT/Tyco Security Systems.

Personnel performing any of the normal operation procedures and tasks must always remain in the room until the tasks are completed. Should any release reach the exterior of the building, immediate actions should be taken using appropriate means to contain and collect the water released. Depending on the nature of the release notification of appropriate regulatory agencies may be warranted.

ATTACHMENT A

Permits

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

DELAWARE RIVER BASIN COMMISSION
APPLICANT'S STATEMENT - APPLICATION FEE FORM

In accordance with Administrative Manual Rules of Practice and Procedure
July 1, 2019

1. **Applicant Name:** ABB Installation Products Inc. **Docket Number:** P-1991-0613

2. **Applicant Address:** 45 Griffin Rd. South, Bloomfield, CT 06002

This completed form must be submitted with all applications. For purposes of calculating the appropriate project review fees, projects are classified as: (A) Water Allocation Projects, (B) Discharge Projects or (C) Other Projects (projects where there are no ongoing withdrawals or discharges i.e. impoundments, linear infrastructure such as pipelines, bridges, highways, etc.). Complete only one of the applicable sections (A, B or C) of Part 3 based on the project type. Project sponsors applying only for a name change or transfer of an existing approval should use The Request for Name Change or Transfer of an Approval Form NCTOA17 instead.

3. **A. WATER ALLOCATION DOCKET APPLICATION FILING FEE:** Includes new projects and renewals or modifications of existing water allocation approvals (surface water and groundwater withdrawals, consumptive use approvals and the importation/exportation of water and wastewater). The total allocation is the total requested water allocation expressed in million gallons per month (mgm). An exportation of water is water taken from within the Delaware River Basin and transferred to an area outside of the Basin and not returned to the basin. Project review fees are doubled for the portion of the allocation that is exported from the Delaware River Basin.

   i. Total Requested Allocation (mgm): 1.364

   ii. Portion of Total Allocation exported: 0 mgm x $418 per mgm x 2 = $0

   iii. Portion of Total Allocation not exported: 1.364 mgm x $418 per mgm = $570.15

   WATER ALLOCATION REVIEW FEE: Sum of ii. and iii., not to exceed $15,687 = $570.15

B. WASTEWATER DISCHARGE DOCKET APPLICATION FILING FEE: Includes new projects and renewals or modifications of existing wastewater discharge approvals. Select the appropriate project type below and enter the corresponding fee.

☐ Private Projects, $1,046 ..... $0

☐ Public Projects, $523 ..... $0

C. OTHER PROJECTS APPLICATION FILING FEE: Complete all lines using "0" where applicable. Supporting documentation may be required.

Design	$0	Supervision of Construction	$0
Legal Services	$0	Contract Administration	$0
Land	$0	Materials	$0
Construction	$0	Other	$0

TOTAL ESTIMATED PROJECT COST $0

(1) Multiply project cost up to $10,000,000 by 0.004 $0

(2) Multiply project cost above $10,000,000 by 0.0012 $0

OTHER PROJECT REVIEW FEE: ADD (1) & (2), not to exceed $78,433 = $0

(See next page)

4. **ADDITIONAL FEES:**
   - ☐ Emergency Approval ($5,000) ..... $ 0
   - ☐ Late Filed Renewal Surcharge ($2,000) ..... $ 0

5. **TOTAL PROJECT REVIEW FEE** = sum of 3A, B or C added to 4. ** $ 570.15

6. **Filing Fee Required with Application:**
Please enclose completed form and check in the amount calculated above (No. 5) with appropriate application. Application forms are available on the Commission's website. Make check payable to: **Delaware River Basin Commission.**

Submit completed form and check to:

Delaware River Basin Commission
PO Box 7360
25 Cosey Road
West Trenton, NJ 08628-0360

Melody B. Christopher
Name of Certifying Official (please type or print)

Melody Christopher
Signature of Certifying Official

Environmental Project Manager — Title

8/20/2020 — Date

**In all cases, if the fixed fee or fee calculated in accordance with the prescribed formulas is deemed by the Executive Director to be insufficient due to exceptional costs associated with the Commission review, the Commission may charge the applicant an Alternate Review Fee equal to 100% of all costs as deemed by the Executive Director to be exceptional.

CHECKLIST FOR FILING AN APPLICATION FOR A GROUND AND/OR SURFACE WATER WITHDRAWAL PROJECT IN THE DELAWARE RIVER BASIN

PLEASE COMPLETE CHECKLIST AND ENCLOSE WITH THE APPLICATION.

If you need assistance, call the Project Review Section - (609) 883-9500, extension 216
or refer to the DRBC website at *https://www.nj.gov/drbc/programs/project/pr/info.html*

Applicant Name (Legal Name): ABB Installation Products, Inc.

Existing Docket or Permit Number (if applicable): P-1991-061-3

Description of Project or Purpose for Applying to the Commission (Please provide a detailed narrative describing the project and purpose of withdrawals):

Pumping well PW-5 is being taken out of service and replaced with PW-6s with no increase in pumping rate. This will enhance contaminant recovery and reduce treatment system maintenance.

Type of Application:

New Groundwater Withdrawal	☐	☐
New Surface Water Withdrawal	☐	☐
Renewal of Existing Withdrawal	☐	☐
Modification of Existing Withdrawal		
Change in Allocation	☐	☐
Change in Service Area	☐	☐
Other Modification ..... Changing pumping well	☑	☐

ITEM	ENCLOSED	N/A
Applicant's Statement – Project Review Fee form	☑	
Project Review Fee (Agencies, authorities or commissions of the signatories to the Compact are exempt from such project review fee. Political subdivisions of the signatory states, however, shall be subject to the fee).		
Withdrawal Application including project narrative	☑	
Copy of Well Registration Form (For New Wells only)	☐	☑
Interbasin Transfer Analysis (Question 8f)	☐	☑
Copy of Application to State Agency or Copy of State Approval (Question 12)	☐	☑
Location Map (Question 13)	☑	
Flood Plain Map (Question 14)	☑	
Drawing of Pump House Floor Flood-Proofed to 100-Year Flood Elevation (Question 14b)	☐	☑
Wetland Map and Certification (Question 15)	☐	
Drought Contingency Plan (Question 16)	☐	☑
Non-Point Source Pollution Control Plan (Question 17)	☐	☑
Hydrologic Report (Question 19)	☐	☑
Service Area Map (Question 20)	☐	☑
Chemical and Bacterial Analysis (Question 21)	☐	☑
Water Conservation Plan:		
Public Water Purveyor (Question 22)	☐	☑
Golf Course (Question 23)	☐	☑
Engineering Study for Remediation Projects (Question 26)	☐	☑

Delaware River Basin Commission
DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

APPLICATION FOR A GROUND OR SURFACE WATER WITHDRAWAL PROJECT IN THE DELAWARE RIVER BASIN

SECTION A: APPLICANT INFORMATION

Pursuant to the Delaware River Basin *Compact* and the *Rules of Practice and Procedure* of the DRBC, application is hereby made for review of the project described below:

1. **General Information:** (please print or type)

Applicant Name (Legal Name): ABB Installation Products, Inc.

Parent Corporation Name, if different: _____

Contact Name and Title: Melody B. Christopher

Mailing Address: 45 Griffin Rd. South

_____

City: ~~Bloomfield~~ State: CT Zip: 06002

Telephone: 860-462-3881 Fax: _____

Email Address: melody.b.christopher@us.abb.com

Representing Attorney Name, if applicable: _____

Mailing Address: _____

_____

City: _____ State: _____ Zip: _____

Telephone: _____ Fax: _____

Email Address: _____

2. **Affidavit:**

State or Commonwealth of Pennsylvania County of Montgomery I, Richard E. Sacks being duly sworn, according to law, depose and say that I have the authority to make this application and that the plans, reports and documents submitted as part of the application are true and correct to the best of my knowledge and belief.

Sworn and subscribed to before me this 25th day of August 2020

Anne E Rutter
Notary Public[1]

Richard E Sacks
Signature and Title of Responsible Official

[1]Applications for withdrawal for agricultural irrigation are not required to be notarized.

Commonwealth of Pennsylvania - Notary Seal
Anne E. Rutter, Notary Public
Montgomery County
My commission expires October 21, 2023
Commission number 1143026
Member, Pennsylvania Association of Notaries

3. Consultant Information:

Name of Engineer/Geologist: Richard Sacks, P.G.

Name of Firm: IES Engineers, Inc.

Mailing Address: 1720 Walton Road
Blue Bell, Pennsylvania 19422

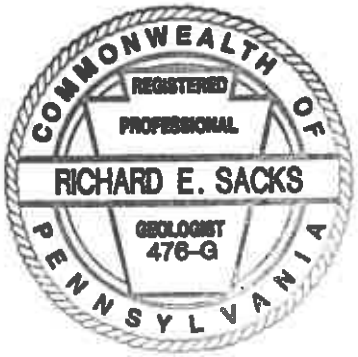
610-828-3078

Phone:

Email Address: rsacks@iesengineers.com

Signature of Consultant

Engineer/Geologist Seal
(P.E. Licensure required in following states: DE, NJ, NY, and PA)
(P.G. Licensure required in the states of DE and PA)



SECTION B: PURPOSE OF WATER WITHDRAWAL

4. **Purpose of Withdrawal:** (check all that apply and at least one)

Domestic Use

☐ Public water supply ☐ Private water supply

Commercial Use

☐ Bottled water operations ☐ Snowmaking ☐ Fish hatchery

☐ Other _____

Industrial Use

☐ Industrial process ☐ Industrial cooling

☐ Groundwater remediation ☐ Natural gas development

☐ Hydrostatic testing

☑ Other Groundwater Remediation

Irrigation Use

☐ Agricultural ☐ Golf Course ☐ Nursery

☐ Other _____

SECTION C: WATER DEMANDS

5. Present water use for all existing wells and surface water sources serving the system

Water Use	Population Served	Service Connections[1]	Self-Supplied Ground (mgd)		Self-Supplied Surface (mgd)		Interconnections (mgd)		Total Self Supply		Peak Month Use (mg)	Estimated Consumptive Use (%)[2]
			Average	Maximum	Average	Maximum	Bulk Purchase	Bulk Sale	Average Daily (mgd)	Maximum Daily (mgd)		
Domestic Use												
Commercial Use												
Industrial Process												
Industrial Cooling												
Irrigation												
Other _____									0.010	0.033		
Total Water Use												

6. Projected water use (10 years from application date) for all existing and new wells and surface water sources serving the system

Water Use	Population Served	Service Connections[1]	Self-Supplied Ground (mgd)		Self-Supplied Surface (mgd)		Interconnections (mgd)		Total Self Supply		Peak Month Use (mg)	Estimated Consumptive Use (%)[2]
			Average	Maximum	Average	Maximum	Bulk Purchase	Bulk Sale	Average Daily (mgd)	Maximum Daily (mgd)		
Domestic Use												
Commercial Use												
Industrial Process												
Industrial Cooling												
Irrigation												
Other _____									0.020	0.044		
Total Water Use												

1 – Water purveyors only

2 – Consumptive use is defined as the water lost due to transpiration from vegetation in the building of plant tissue, incorporated into products during their manufacture, lost to the atmosphere from cooling devices, evaporated from water surfaces, exported from the Delaware River Basin, or any other water use for which the water withdrawn is not returned to the surface waters of the basin undiminished in quantity.

7. Requested allocation from existing and new well(s) and/or intake(s):

	Well or Intake Designation	Requested Instantaneous Rate (gpm)	Requested Allocation (mgm)
☑ Existing ☐ New	MW-4	30	1.34
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
Column Total		30	1.34

	Well or Intake Designation	Requested Instantaneous Rate (gpm)	Requested Allocation (mgm)
☐ Existing ☑ New	MW-6S	30	1.34
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
☐ Existing ☐ New			
Column Total		30	1.34

	Total – All Sources	30	1.34
	If requested total allocation is less than "Total – All Sources" above, indicate total requested allocation	N/A	N/A

If any of the above wells are replacements, provide well designation and reason for replacement: MW-6s

Well PW-5 is being taken out of service and replaced with well PW-6s as approved by USEPA, to enhance the contaminant removal and alleviate treatment system maintenance due to high dissolved solids in well PW-5.

SECTION D: WATER SOURCES

8a. Groundwater Withdrawal Wells:

	Well No.	Latitude/ Longitude (DMS)	State County Municipality	Aquifer Name	Date Drilled	Well Head Elevation (ft amsl)	Well Depth (ft)	Casing Depth (ft)	Screened Interval (ft to ft)	Pumping Test Completed (yes or no)	Safe Yield[1] (gpm)	Specific Capacity (gpm/ft)	Existing Pump Capacity (gpm)	Pump Intake Setting (feet)
☑ Existing ☐ New	MW-4	40.378680, -75.307418	PA, Bucks County, Perkasie	Brunswick Fm.	1967	Unchanged	213	33'	Unchanged	YES	30	Unchanged	Set to Below 50PM.	186
☐ Existing ☑ New	MW-6s	40.378679, -75.307299	PA, Bucks County, Perkasie	Brunswick Fm.	05/30/2008	539.74	138	0.5	6" Open hole	YES	30	–	Set to Below 50PM.	130
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														
☐ Existing ☐ New														

Notes: (1) – attach method of computation or attach copy of pumping test data. Pumping test data required for any new wells.

8b. Surface water withdrawals – rivers, streams, creeks, springs, and brooks

	Intake ID	Point of Taking Latitude/ Longitude (DMS)	State County Municipality	Name of Surface Water Body	State Stream Classification[4]	Drainage Area at Intake (square miles)	Nearest USGS gaging station	Q_{7-10}[1] At point of taking (cfs)	ADF[2] At point of taking (cfs)	Current Passby Requirement (cfs)	Date Intake Constructed	Pump Capacity [3] (gpm)
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											
☐ Existing ☐ New	N/A											

[1] Q_{7-10}: A statistical estimate of the lowest average flow during a consecutive 7-day period with an average recurrence interval of 10 years (provide method of computation including the gage name, USGS identification, location and the period of record).
[2] ADF: Average daily flow of the stream at the point of withdrawal – include period of record and gage information used in calculation.
[3] If gravity-fed, give maximum hydraulic capacity and label as such.

[4] **Stream Classification Codes**

Pennsylvania: EV, HQ, CWF, WWF, MF, TSF
New Jersey: FW1, FW2, PL, TP, TM, NT, SE, SC
New York: A, AA, A-S, AA-S, B, C, D, T, TS
Delaware: ERES, CWF, SALW, FALW

8c. Surface water withdrawals – ponds, lakes, intake dams, reservoirs, and storage dams:

	Intake ID	Point of Taking Latitude/ Longitude (DMS)	State County Municipality	Name of Surface Water Body	State Stream Classification[4]	Drainage Area at Intake (square miles)	Impoundment Storage Capacity (mg)	Q_{7-10}[1] at point of taking (cfs)	ADF[2] at point of taking (cfs)	Current Conservation Release Requirement (cfs)	Release Works yes/no	Safe Yield (cfs)	Date Intake Constructed	Pump Capacity[3] (gpm)
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													
☐ Existing ☐ New	N/A													

[1] Q_{7-10}: A statistical estimate of the lowest average flow during a consecutive 7-day period with an average recurrence interval of 10 years (provide method of computation including the gage name, USGS identification, location and the period of record). If facility is a pond, lake, or impoundment provide the method and supporting calculations for determining the Safe Yield of storage.
[2] ADF: Average daily flow of the stream at the point of withdrawal – include period of record and gage information used in calculation.
[3] If gravity-fed, give maximum hydraulic capacity and label as such.

[4] **Stream Classification Codes**
Pennsylvania: EV, HQ, CWF, WWF, MF, TSF
New Jersey: FW1, FW2, PL, TP, TM, NT, SE, SC
New York: A, AA, A-S, AA-S, B, C, D, T, TS
Delaware: ERES, CWF, SALW, FALW

8d. Source Metering, Recording and Reporting (Resolution No. 86-12, amended by Resolution No. 2001-8)
All water source withdrawals shall be metered in accordance with the above Resolutions and reported to the designated state agency. Include with the application the following for each water supply source:

- Meter type/method.
- Meter reading and recording procedure.
- Meter calibration, maintenance and replacement schedule.
- Provide affirmation that water use is being reported to the designated state agency.

8e. Existing and/or New Interconnections and Their Capacities:

Name of Interconnecting Purveyor	Indicate if interconnection is New or if existing used on Regular[1], Auxiliary[2] or Emergency[3] Basis	Interconnection Capacity (mgd)[4]	Bulk Purchase		Bulk Sale	
			Annual Average Use (mgd)[4]	Monthly Maximum Use (mg)[4]	Annual Average Use (mgd)[4]	Monthly Maximum Use (mg)[4]
N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Regular Interconnection- An interconnection with another independent water system that is used on a daily basis.
[2] Auxiliary Interconnection- An interconnection with another independent water system that is used seasonally or during periods of increased peak demand.
[3] Emergency Interconnection- An interconnection with another independent water system that is used only during emergencies such as during repairs/maintenance, source contamination, pump failures, fire fighting, etc.
[4] Use zeros if not applicable.

If no interconnections exist, discuss the feasibility of interconnecting project system with other distribution systems or any other water source (such as in the case of irrigation of golf courses, the use of WWTP effluent). The DRBC estimates that the project withdrawals, used for the purpose of groundwater remediation, result in a consumptive use of 0 percent of the total water use. The DRBC

8f. Import/Export

Well or Intake Designation	Basin (Atlantic, Delaware River, Susquehanna River etc.)	Amount Being Imported into the Delaware River Basin (mgd)[1]	Amount Being Exported from the Delaware River Basin (mgd)[1]	Purpose of Withdrawal
NA				
Totals				

[1] Use zeros if not applicable.

The diversion or transfer of water from (exportation) or to (importation) the DRB, whenever the design capacity of such transfer is an average daily rate of 100,000 gallons, is subject to the review and approval of the Commission. All projects involving such transfers must be submitted to the Commission for review and determination under Section 3.8 of the *Compact*, and inclusion within the *Comprehensive Plan*. If the export/import is from/to a facility located in Susquehanna River Basin (SRB), please provide the docket number and date of approval by the Susquehanna River Basin Commission. The applicant shall address the items listed below and submit with this application.

A. Efforts to first develop or use and conserve the resources outside of the Delaware River Basin.

B. Water resource impacts of each alternative available including the "no project" alternative.

C. Economic and social impacts of the importation or exportation and each of the available alternatives including the "no project" alternative.

D. Amount, timing and duration of the proposed transfer and its relationship to passing flow requirements and other hydrologic conditions in the Basin, and impact on in stream uses and downstream waste assimilation capacity.

E. Benefits that may accrue to the Delaware River Basin as a result of the proposed transfer.

F. Volume of the transfer and its relationship to other specified actions or Resolutions by the Commission.

G. Volume of the transfer and the relationship of that quantity to all other diversions.

H. Any other significant benefit or impairment which might be incurred to the Delaware River Basin as a result of the proposed transfer.

SECTION E: TREATMENT

9. **Method of Treatment (all applicants):** Will the water withdrawn receive any treatment prior to use? ☑ Yes ☐ No. If yes, describe: Groundwater Rame

Groundwater is treated using an Air Stripper unit, then discharged into the unnamed tributary to the Perkiomen Creek. The project does not conflict with the Comprehensive Plan, and is designed to preventsubstantial adverse impact to the water resources related environment, while sustaining thecurrent and future water uses and development of the water resources of the basin.

10. **Water Treatment Plant Information:** If raw water is conveyed to a water treatment plant prior to entering the distribution system, please provide the following information:

Name or Owner of Treatment Plant: N/A

NPDES Permit No. for Discharge of Backwash: N/A

DRBC Docket No. for Discharge of Backwash: N/A

Location: N/A

City: N/A State: N/A Zip: N/A

Hydraulic Design Capacity: N/A mgd

11. **Wastewater disposal information:**

a. Describe the method of treatment and disposal of wastewater from the project service area:

☐ Conveyed to a treatment plant ☐ On-lot septic system ☐ Other: N/A

b. If wastewater is discharged to a treatment plant, please provide:

Treatment Plant 1:

Name or Owner: N/A

NPDES Permit No.: N/A

DRBC Docket No.: N/A

Location: N/A

City: N/A State: ___ Zip: ___

Hydraulic Design Capacity: N/A mgd

Treatment Plant 2:

Name or Owner: ___

NPDES Permit No.: ___

DRBC Docket No.: ___

Location: ___

City: ___ State: ___ Zip: ___

Hydraulic Design Capacity: ___ mgd

SECTION F: ADDITIONAL INFORMATION

12. Prior or pending state or federal permits:

Type of State Permit(s) Required for Project	Status[1]	Agency	Permit Issue Date	Permit Number
NPDES - PADEP	A	PADEP	April 1 2020	PA0040321

[1] If not applicable, list (NA); if approved, (A); if pending, (P); if required but not applied for, (R).

Attach a copy of the application submitted to the appropriate state agency (if applicable), or if wells/intakes have already been approved by the state, copy of permit for new wells/intakes from the appropriate state agency.

13. **Location Map:** All applicants must attach a map (preferably USGS Quadrangle) which indicates the location of all new and existing project water sources, including wells, surface water intakes and interconnections.

14. **Flood Plain Map:** All applicants must submit a site map showing the locations of the 100-year flood plain and floodway boundaries (as indicated by the Flood Insurance Study for the project municipality) in relation to all structures (wells, pump houses, and water treatment facilities). If a Flood Insurance Study has not been completed for the project municipality, supply a copy of the Official Flood Hazard Boundary Map of the site and indicate the locations of all structures (For more information see the Commission's Flood Plain Regulations).

14b. *Neither the pump house, water treatment facilities, well, nor ancillary equipment may be located within the 100-year floodway. If the pump house is located in the flood fringe area, submit a drawing indicating that the pump house floor and all critical equipment are located at least one foot above the 100-year flood elevation, or flood-proofed to that elevation.*

15. **Wetlands Map and Certification:** All applicants must identify all wetlands that may be impacted by the project on a map. Wetlands are defined in the Commission's *Water Code* (Section 2.350.1) as those areas which are inundated by surface or ground water with a frequency sufficient to support a prevalence of vegetative or aquatic life that requires saturated soil conditions for growth and reproduction, or are delineated as wetlands by a signatory state. It is the policy of the Commission to support the preservation and protection of wetlands in accordance with Section 2.350.2 of the *Water Code*. Each application shall include a signed statement that the project is or is not located within a wetland as defined by applicable state and federal regulations.

Information on determining the presence or absence of wetlands can be obtained from the Army

Corps of Engineers Philadelphia District Regulatory Branch:
http://www.nap.usace.army.mil/cenap-op/regulatory/wetlands_guidance.html

16. **Drought Management and Contingency Plan:** (All projects with a total system water withdrawal in excess of 1.0 mgd or any withdrawal project in the Southeastern Pennsylvania GWPA.) A drought management and contingency plan shall be prepared by each person, firm, corporation or other entity withdrawing groundwater or surface water for purposes of municipal or public, industrial, or commercial water supply. The plan shall provide the necessary actions the applicant will execute to reduce demand and assure water supplies to priority uses during a declared drought emergency. The plan will include emergency water conservation measures and identify potential water use restrictions the applicant will implement to achieve a reduction in a small percentage of their normal water use. **Such plans shall be filed with this application.**

17. **Non-Point Source Pollution Control Plan (NPSPCP):** (All projects with sources or service area within the drainage area of Special Protection Waters.) The applicant shall provide a description of how the proposed project controls the new or increased non-point source loads generated within the portion of the project's service area which is also located within the drainage area of SPW. In general, a NPSPCP shall consist of an **Erosion and Sediment Control Plan (ESCP)** and a **Post Construction Stormwater Management Plan (PCSMP).**

A NPSPCP submitted for DRBC approval must include:

1) an approved ESCP – usually by the County Soil/Conservation District;

2) a PCSMP signed and sealed by a licensed professional engineer (P.E.);

3) a letter by the P.E. stating that the NPSPCP meets the requirements of an approvable NPSPCP as described below; and

4) a written narrative describing the steep slope, riparian buffer, floodplain and redevelopment (if applicable) design criteria being utilized in the site design.

For each of the SPW states, a NPSPCP will be deemed acceptable if:

Pennsylvania: a project is designed in accordance with:
1) PADEP's Erosion and Sediment Pollution Control Program Manual (March 2000), **and**
2) PADEP's draft Pennsylvania Model Stormwater Management Ordinance (2006), **and**
3) PADEP's Pennsylvania Stormwater Best Management Practices Manual (December 2006).

New Jersey: a project is designed in accordance with:
1) NJ State Soil Conservation Committee's Standards for Soil Erosion and Sediment Control in New Jersey (July 1999), **and**
2) New Jersey Stormwater Best Management Practices Manual – Appendix D - Model Stormwater Control Ordinance for Municipalities (April 2004).

New York: a project is designed in accordance with:

1) New York State Standards and Specifications for Erosion and Sediment Control (August 2005), published by the Empire State Chapter of the Soil and Water Conservation Society, **and**
2) a Stormwater Pollution Prevention Plan (SWPPP) which includes the water quality and water quantity controls in accordance with the New York State Stormwater Management Design Manual (August 2003).

18. Indicate the total available water system storage: 0 mg, _____ days supply.

19. **Final Hydrogeologic Report.** For all new wells, submit a Final Hydrogeologic Report detailing extended pumping test procedures, results and analyses.

The Final Hydrogeologic Report must include a discussion of field procedures, a listing of all data gathered, an analysis of the data and an evaluation of the impact of the proposed withdrawal on the aquifer and on other groundwater and surface water users in the vicinity. All relevant data, including but not limited to a geologic map; well log; water level charts; and tables and graphs for the pumped well, monitoring wells, and nearby perennial streams, wetlands and other sensitive hydrologic features must be submitted. The pumping test may be of not less than 48 hours pumping duration unless otherwise approved in writing by the Executive Director or as a condition of the Commission's approval, at an uninterrupted, constant withdrawal rate of not less than the proposed pumping rate. Required information to be collected must include, but is not limited to the following:

a. Date and time of all static, pumping, and recovery water level measurements.

b. Record of pumping rate measured frequently throughout the test.

c. Sufficient static water level measurements in all wells and at all monitoring points prior to start of pumping and following cessation of pumping to determine trends in water level changes.

d. Pumping and recovery measurements in the pumped well and observation wells.

e. Monitoring of wells sufficient to determine all possible interference.

f. The final hydrogeologic report must include appropriate calculations using the collected data to determine: all relevant aquifer parameters, including without limitation, transmissivity, storage coefficients, hydraulic conductivity, specific yield, etc., and an extrapolated drawdown prediction at the tested rate in the pumping well and all affected wells over an assumed six-month period of no recharge.

g. Groundwater discharge from the proposed production well during the pumping test must be directed an adequate distance from the pumping well, observation wells, and monitoring locations such that recirculation or artificial recharge does not occur. Recirculation and artificial recharge may invalidate the pumping test and may require re-testing.

h. Discharges of groundwater and groundwater laden with drill cuttings must be controlled in such a way as to prevent erosion and sediment pollution of waterways. The project sponsor must obtain any and all approvals required by state and local water management agencies and soil conservation districts before conducting any drilling or aquifer pumping tests.

i. Records of precipitation, measurements or observations of nearby streamflows, and weather conditions throughout the test.

j. A map identifying all nearby water wells owned by others that could be affected by pumping of the new well(s) and the following information for each well if available:

- Name of Owner
- Address and Phone Number
- Well No.
- Date Drilled
- Depth Drilled (in feet)
- Diameter (in inches)
- Casing Type
- Casing Diameter (in inches)
- Casing Depth (in feet)
- Well screen Type
- Top of Screen (in feet)
- Bottom of Screen (in feet)
- Pump type
- Capacity (gpm)
- Intake setting (feet)
- Describe location of well on property
- Latitude
- Longitude

Water Purveyors Only:

20. **Service Area Map:** Enclose a service area map that includes a delineation of the existing service area and the proposed service area.

21. **Water Quality Data:** Include chemical and bacterial analysis of the water from the new well(s).

22. **Water Conservation Plan:** All purveyors seeking DRBC approval for a new or expanded water withdrawal must include a water conservation plan, addressing the following components:

Service Metering (No. 87-7 Revised, amended by Resolution No. 2001-8)

- Confirm all connections metered. If not, include schedule for 100% service metering.
- Meter types.
- Meter reading and recording procedure.
- Meter calibration, maintenance and replacement schedule.
- Water rate schedule (is billing based on metered usage?)
- *Purveyor program to provide residential customers with information on
  - savings available through water conservation;
  - different methods of residential water conservation; and
  - availability of water conservation devices.

Leak Detection & Repair (LD&R) (No. 87-6 Revised)

- Completed Plan or Executive Summary (Pennsylvania Applicants may substitute an LD&R Compliance Report)

Water Conservation Performance Standards (No. 88-2 Rev. No. 2)

- Status of municipal regulations in applicant's service area (Pennsylvania only).
- Adopted policy to certify or verify that "no new service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision No. 2)."

Rationing Plan – Describe the water rationing plan, including triggers and implementation schedules.

Water Audit Program (Resolution No. 2009-1)

- The owners of each water supply system serving the public with sources or service areas located in the Delaware River Basin shall implement an annual calendar year water audit program conforming to IWA/AWWA Water Audit Methodology (AWWA Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance.

- "Non-revenue water" reported under section 2.50.3. (Reporting Requirements), subsection B.1.b.ii. of this Water Code shall be computed in accordance with IWA/AWWA Water Audit Methodology (AWWA) Water Loss Control Committee (WLCC) Water Audit Software) and corresponding AWWA guidance.

*Recommended.

b. **All purveyors withdrawing 1 million gallons per day or more shall also include the following:**

Water Conservation (No. 81-9)

- Provision of information on the availability of water-conserving devices and procedures.

Retail Water Pricing (No. 92-2) (This requirement is waived if the purveyor either documents it has adopted a water conserving pricing structure or is in the process of implementing such a pricing structure in accordance with a Commission schedule or a schedule established by the appropriate state public utilities commission.)

- An evaluation of the feasibility of implementing a water conservation pricing structure and billing program. The evaluation shall, at a minimum, consider:
  - The potential change in the quantity of water demanded for customer classes and their end uses of water during both peak and non-peak periods stemming from alternative water conservation pricing structures;
  - The potential revenue effects of the alternative pricing structures;
  - Any legal or institutional changes necessary or desirable to implement a water conservation pricing structure; and
  - How conservation pricing could be coordinated with other conservation programs and measures to reduce both average and peak water use.

Golf Course Projects:

23. All applications involving golf course irrigation must include an operations plan that addresses the components contained in the Water Conservation Guidelines for Golf Courses, available on the Commission's website.
Additionally, the following information should be provided:

Total **property** acreage: N/A acres. Number of Holes: N/A

Acreage to be **irrigated:**

Fairways	0.00	acres
Tees N/A	0.00	acres
Greens N/A	0.00	acres
Other[1] N/A	0.00	acres
Total	0.00	acres

Describe method[2] for estimating irrigated acreage: N/A

[1] Other includes any other irrigated area, for example rough surrounding fairways and greens.

[2] The acreage to be irrigated must be an accurately represented area, and should reflect only those areas that are contained within the irrigation system.

24. Provide a diagram and description of the irrigation system, include all water sources, storage ponds, and meter locations.

Agricultural Projects

25. If the use is agricultural, provide a description of the type of crop and the Agricultural Extension Service water requirement recommendations:

Type of crop(s): N/A . N/A inches/year.

Groundwater Remediation Projects

26. If the withdrawal is part of a groundwater remediation project, submit copies of any engineering studies on the nature and extent of the contamination and the remediation program.

PERMIT NO. P-1991-061-3

DELAWARE RIVER BASIN COMMISSION

Southeastern Pennsylvania
Ground Water Protected Area

Thomas & Betts Corporation
Groundwater Withdrawal
East Rockhill Township, Bucks County, Pennsylvania

PROCEEDINGS

This permit is issued in response to an Application submitted by IES Engineers on behalf of Thomas & Betts Corporation to the Delaware River Basin Commission (DRBC or Commission) on October 4, 2011 (Application), to renew the approval of an allocation of groundwater and review of a groundwater withdrawal associated with a remediation project in the Ground Water Protected Area of Southeastern Pennsylvania. This permit was previously approved by the Commission on November 7, 2001.

The Application was reviewed for approval under Section 3.8 and for a withdrawal permit under Section 10.3 of the Delaware River Basin Compact. The Bucks County Planning Commission has been notified of pending action on this permit.

A. DESCRIPTION

1. **Purpose**. The purpose of this permit is to renew the withdrawal of up to 1.364 million gallons per month (mgm) of water from Well Nos. 4 and 5 for groundwater remediation purposes at the permit holder's electronics manufacturing plant. Thomas & Betts Corporation is not requesting an increase in groundwater withdrawal allocation from that contained in its prior approval.

2. **Location**. The project wells are located in the East Branch Perkiomen Creek Watershed in the Brunswick and Lockatong Formations.

Specific location information has been withheld for security reasons.

3. **Area Served**. Wells Nos. 4 and 5 are used for the sole purpose of groundwater remediation at the project site in East Rockhill Township, PA. Formerly, the wells also provided industrial water supply for the permit holder's electronic manufacturing operation. Process and potable water for the plant's operations is now purchased from the Perkasie Borough Authority.

4. Physical features.

a. **Design criteria**. The permit holder operates an electronics manufacturing facility. Existing Wells Nos. 4 and 5 have been operating for the sole purpose of recovering groundwater contaminated with trichloroethylene (TCE) for approximately the past 25 years. The permit holder plans to continue the groundwater remediation system. The permit holder operates two wells with an average and maximum water demand of 0.010 million gallons per day (mgd) (0.310 mgm) and 0.033 mgd (1.023 mgm). The 10-year projected average and maximum water use at the site are 0.020 mgd (0.620 mgm) and 0.044 mgd (1.364 mgm). The permit holder requested a total allocation of 1.364 mgm.

Contaminated groundwater withdrawn from Wells Nos. 4 and 5 is treated by air stripping and then discharged to an unnamed tributary of the East Branch Perkiomen Creek.

b. **Facilities**. The permit holder's existing wells have the following characteristics:

WELL NO.	DEPTH (FT)	CASED DEPTH/CASING DIAMETER	PUMP CAPACITY (GPM)	YEAR DRILLED
Well No. 4	470	33' / 6"	30	1967
Well No. 5	450	30' / 6"	30	1967

The wells are both metered.

The project facilities are above the 100-year flood elevation and are not located within the 100-year floodplain.

c. **Other**. Treated groundwater from the on-site wells is discharged to an unnamed tributary of the East Branch Perkiomen Creek. Pennsylvania Department of Environmental Protection (PADEP) has most recently approved the project treatment facility's discharge under NPDES Permit No. PA0040321 on May 1, 2009.

B. FINDINGS

The project is located within the Southeastern Pennsylvania Ground Water Protected Area delineated by the DRBC pursuant to Compact Section 10.2. The project is designed to conform to the requirements of the *Water Code, Water Quality Regulations and Ground Water Protected Area Regulations (GWPAR)* of the DRBC.

Review and analysis of the application pursuant to Section 6.D. of the *GWPAR* result in the following:

1. The withdrawal is consistent with the Commission's Comprehensive Plan and the policies and purposes of these regulations.

2. The withdrawal, in conjunction with other withdrawals in the applicable groundwater basin, should not exceed withdrawal limits of the groundwater basin, aquifer or aquifer system.

3. The withdrawal should not significantly impair or reduce the flow of perennial streams in the area.

4. Existing ground and surface water withdrawals should not be adversely impacted, or will be otherwise assured of adequate supplies in accordance with the requirements of Section 10 of the *GWPAR*.

5. The withdrawal should not cause substantial, permanent adverse impact to the overlying environment.

6. The permit holder adopted and will implement conservation and management programs as required by Section 7 of the *GWPAR*.

The Thomas & Betts Corporation wells are located in the East Branch Perkiomen-Morris Run subbasin, where the total net annual groundwater withdrawal is 485 million gallons per year (mgy) and is less than the withdrawal limit set in Section 6.I of the *GWPAR* of 1,619 mgy. The permit holder is requesting an annual allocation of 16.37 mgy, most of which will be returned to groundwater. However, even if no water from this project were returned to groundwater, the total net annual groundwater withdrawal from this subbasin would remain below the withdrawal limits set in Section 6.I of the *GWPAR*. Therefore, the withdrawals from the Thomas & Betts wells in conjunction with other withdrawals in the subbasin are in accordance with the requirements of Section 6.I of the *GWPAR*.

The DRBC estimates that the project withdrawals, used for the purpose of groundwater remediation, result in a consumptive use of 0 percent of the total water use. The DRBC definition of consumptive use is defined in Article 5.5.1.D of the *Administrative Manual – Part III – Basin Regulations – Water Supply Charges*.

The project does not conflict with the Comprehensive Plan, and is designed to prevent substantial adverse impact to the water resources related environment, while sustaining the current and future water uses and development of the water resources of the basin.

C. DECISION

I. Effective on the approval date for Docket No. P-1991-061-3 below:

a. The project described in Docket No. D-91-61 P.A. RENEWAL is removed from the Comprehensive Plan to the extent that it is not included in Docket No. P-1991-061-3; and

b. Docket No. D-91-61 P.A. RENEWAL is terminated and replaced by Docket No. P-1991-061-3; and

c. The project and the appurtenant facilities described in the Section A "Physical Features" of this docket shall be added to the Comprehensive Plan.

II. The project as described in the Section A "Physical features" is approved pursuant to Section 3.8 of the *Compact* and is granted this withdrawal permit pursuant to Section 10.3 of the *Compact* and *GWPAR*, subject to the following conditions:

a. Permit approval is subject to all conditions, requirements, and limitations imposed by the PADEP, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's. Within 60 days (February 8, 2012), the permit holder shall provide written confirmation to the Commission that it has registered and reported with PADEP all surface and groundwater sources described in this permit in accordance with the Pennsylvania Regulations (Title 25 - Environmental Protection, [25 PA. CODE CH. 110], Water Resources Planning).

b. The well and operational records shall be available at all times for inspection by the DRBC.

c. The well shall be operated at all times to comply with the requirements of the *Water Code* and *Water Quality Regulations* of the DRBC.

d. During any month, the withdrawal from the following wells shall not exceed the following individual allocation:

WELL NO.	INSTANTANEOUS ALLOCATION (GPM)	MONTHLY ALLOCATION (MILLION GALLONS)
Well No. 4	30	1.34
Well No. 5	30	1.34

In addition, the total groundwater withdrawal shall not exceed 1.364 mgm and 16.37 mgy.

e. The wells shall be equipped with a readily accessible capped port and drop pipe so that water levels may be measured under all conditions.

f. The project withdrawals shall be metered with an automatic continuous recording device that measures to within 5 percent of actual flow. An exception to the 5 percent performance standard, but no greater than 10 percent, may be granted if maintenance of the 5 percent performance is not technically feasible or economically practicable. A record of daily withdrawals shall be maintained, and monthly totals shall be reported annually by June 30, to the Bureau of Watershed Management, PADEP. Withdrawal records shall be available at any time to the Commission if requested by the Executive Director.

g. The permit holder shall implement to the satisfaction of the Bureau of Watershed Management, PADEP, a drought or other water supply emergency plan.

h. No new water service connections shall be made to the premises connected to sewerage systems which are not in compliance with all applicable effluent limits contained in State permits and the *Water Quality Regulations* of the Commission.

i. Nothing herein shall be construed to exempt the permit holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

j. The permit holder is permitted to provide the water approved in this permit to the areas included in Section A.3. Area Served of this permit. Any expansion beyond those included in Section A.3. Area Served is subject to DRBC review and approval in accordance with Section 3.8 of the *Compact* and the *GWPAR*.

k. A complete application for the renewal of this permit, or a notice of intent to cease the withdrawal operations approved by this permit by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the permit holder, to re-issue the permit before the expiration date below, the terms and conditions of this permit will remain fully effective and enforceable against the permit holder pending the grant or denial of the application for permit approval.

l. The permit holder shall incorporate and implement reasonable conservation practices and measures consistent with efficient utilization of water resources.

m. The issuance of this permit approval shall not create any private or proprietary rights in the water of the Basin, and the Commission reserves the rights to amend, alter or rescind any actions taken hereunder in order to insure the proper control, use and management of the water resources of the Basin.

n. If any data or information demonstrates that the operation of this project significantly affects or interferes with any domestic or other existing uses of ground or surface water, or if the permit holder receives a complaint by any existing ground or surface water users within the zone of influence of the withdrawal, the permit holder shall immediately notify the Executive Director of any complaints by any ground or surface users within the zone of

influence of the withdrawal, and unless excused by the Executive Director, shall investigate such complaints. The permit holder should direct phone call notifications of potential well or surface water interference or complaints of interference to the DRBC Project Review Section at 609-883-9500, extension 216. Oral notification must always be followed up in writing directed to the Executive Director. In addition, the permit holder shall provide written notification to all potentially impacted users of wells or surface water supplies of the permit holder's responsibilities under this condition. Any ground or surface water user which is substantially adversely affected, rendered dry or otherwise diminished as a result of the permit holder's project withdrawal, shall be repaired, replaced or otherwise mitigated at the expense of the permit holder in accordance with Section 10B of the *GWPAR*. A report of investigation and/or mitigation plan prepared by a hydrologist shall be submitted to the Executive Director as soon as practicable. The Executive Director shall make the final determination regarding the validity of such complaints, the scope or sufficiency of such investigations, and the extent of appropriate mitigation measures, if required.

o. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

p. For the duration of any drought emergency declared by either Pennsylvania or the Commission, water service or use by the permit holder pursuant to this approval shall be subject to the prohibition of those nonessential uses specified by the Governor of Pennsylvania, the Pennsylvania Emergency Management Council, PADEP, or the Commonwealth Drought Coordinator, to the extent that they may be applicable, and to any other emergency resolutions or orders adopted hereafter by the Commission.

q. Any person who objects to a permit decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

r. This approval will be reviewed within ten years of the date of approval, and unless renewed, this approval shall expire ten years from the date of approval.

By the Executive Director: Carol R. Collier **Date:** 5/9/12
Carol R. Collier

Concur, State Commissioner: Kelly Jean Heffner **Date:** 5/10/12
Kelly Jean Heffner
Pennsylvania Department of Environmental Protection

Expiration Date: 5/10/2022

RECEIVED MAR 18 2020

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

MAR 13 2020

CERTIFIED MAIL NO. 7018 0040 0000 0097 7223
RETURN RECEIPT NO. 9590 9402 3952 8060 3814 14

Ms. Melody Christopher
ABB Installation Products, Inc.
131 Phoenix Crossing
Bloomfield, CT 06002

Re: Final NPDES Permit- Industrial Waste
ABB Installation Products – Perkasie Plant
NPDES Permit No. PA0040321
Authorization ID No. 1297629
East Rockhill Township, Bucks County

Dear Ms. Christopher:

Your NPDES permit is enclosed. Please read the permit carefully. The permit expires on the date identified on page 1 of the permit. A renewal application must be submitted to this office 180 days prior to the permit expiration date, if a discharge is expected to continue past the expiration date of the permit.

Enclosed are Discharge Monitoring Report (DMR) templates and DMR instructions. It is recommended that you retain the DMR templates in the event you are unable to submit DMRs electronically through DEP's eDMR system. Routine use of the eDMR system is a requirement of the permit unless the conditions in Part A III.B.3 of the permit are met to submit hard copies.

Also enclosed is a Supplemental Form Inventory, which identifies the forms that are attached to the permit and must be submitted as attachments to eDMR reports, as applicable (see individual form instructions). The submission of other supplemental forms may be required in accordance with the permit. We encourage you to use the spreadsheet versions of supplemental forms that contain appropriate validation and DEP-approved calculations.

We would like to bring DEP's eNOTICE service to your attention. eNOTICE is a subscription service that provides options to receive notifications of DEP's activities such as the receipt of permit applications, comment periods for guidance and regulations, and stream redesignation evaluations. To sign up for an account, visit DEP's website (www.dep.pa.gov) and select Data and Tools – Tools – eNOTICE.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at http://ehb.courtapps.com or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

If you have any questions, please contact Ketan Thaker at 484.250.5193.

Sincerely,

Thomas L. Magge
Environmental Program Manager
Clean Water Program

Enclosures

cc: Operations Section
East Rockhill Township (w/o enclosure)
Bucks County Health Department (w/o enclosure)
Ms. Martinsen – EPA (3WD41) (w/o enclosure)
Ms. Richard Sacks – IES Engineers
Central Office, Division of Operations
Re

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM DISCHARGE REQUIREMENTS FOR INDUSTRIAL WASTEWATER FACILITIES

NPDES PERMIT NO: PA0040321

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 *et seq.* ("the Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 *et seq.*,

ABB Installation Products, Inc.
131 Phoenix Crossing
Bloomfield, CT 06002

is authorized to discharge from a facility known as **ABB Installation Products – Perkasie Plant**, located in **East Rockhill Township, Bucks County**, to **Unnamed Tributary to East Branch Perkiomen Creek (TSF, MF)** in Watershed(s) **3-E** in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts A, B and C hereof.

THIS PERMIT SHALL BECOME EFFECTIVE ON APRIL 1, 2020

THIS PERMIT SHALL EXPIRE AT MIDNIGHT ON MARCH 31, 2025

The authority granted by this permit is subject to the following further qualifications:

1. If there is a conflict between the application, its supporting documents and/or amendments and the terms and conditions of this permit, the terms and conditions shall apply.

2. Failure to comply with the terms, conditions or effluent limitations of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (40 CFR 122.41(a))

3. A complete application for renewal of this permit, or notice of intent to cease discharging by the expiration date, must be submitted to DEP at least 180 days prior to the above expiration date (unless permission has been granted by DEP for submission at a later date), using the appropriate NPDES permit application form. (40 CFR 122.41(b), 122.21(d)(2))

   In the event that a timely and complete application for renewal has been submitted and DEP is unable, through no fault of the permittee, to reissue the permit before the above expiration date, the terms and conditions of this permit, including submission of the Discharge Monitoring Reports (DMRs), will be automatically continued and will remain fully effective and enforceable against the discharger until DEP takes final action on the pending permit application. (25 Pa. Code §§ 92a.7 (b), (c))

4. This NPDES permit does not constitute authorization to construct or make modifications to wastewater treatment facilities necessary to meet the terms and conditions of this permit.

DATE PERMIT ISSUED MAR 16 2020

ISSUED BY Thomas L. Magge

Thomas L. Magge
Environmental Program Manager
Southeast Regional Office

Permit No. PA0040321

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

I. A. **For Outfall** 001 , **Latitude** 40° 22' 37.00" , **Longitude** 75° 18' 23.00" , **River Mile Index** 0.87 , **Stream Code** 01270

Receiving Waters: Unnamed Tributary to East Branch Perkiomen Creek (TSF, MF)

Type of Effluent: Groundwater Cleanup Discharge

1. The permittee is authorized to discharge during the period from **Permit Effective Date** through **Permit Expiration Date**.
2. Based on the anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply (see also Additional Requirements and Footnotes).

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Average Monthly	Maximum	Instant. Maximum		
Flow (GPD)	Report	XXX	XXX	XXX	XXX	XXX	1/week	Measured
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	1/month	Grab
1,1,1-Trichloroethane	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
1,1,1-Trichloroethane Industrial Influent	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Tetrachloroethylene	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Tetrachloroethylene Industrial Influent	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Trichloroethylene Industrial Influent	XXX	XXX	XXX	XXX	XXX	Report	1/quarter	Grab
Trichloroethylene	XXX	XXX	XXX	0.003	XXX	0.036	1/month	Grab

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at Outfall 001

PART A - EFFLUENT LIMITATIONS, MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS (Continued)

Additional Requirements

The permittee may not discharge:

1. Floating solids, scum, sheen or substances that result in observed deposits in the receiving water. (25 Pa Code § 92a.41(c))

2. Oil and grease in amounts that cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline, or that exceed 15 mg/l as a daily average or 30 mg/l at any time (or lesser amounts if specified in this permit). (25 Pa. Code § 92a.47(a)(7), § 95.2(2))

3. Substances in concentration or amounts sufficient to be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life. (25 Pa Code § 93.6(a))

4. Foam or substances that produce an observed change in the color, taste, odor or turbidity of the receiving water, unless those conditions are otherwise controlled through effluent limitations or other requirements in this permit. For the purpose of determining compliance with this condition, DEP will compare conditions in the receiving water upstream of the discharge to conditions in the receiving water approximately 100 feet downstream of the discharge to determine if there is an observable change in the receiving water. (25 Pa Code § 92a.41(c))

Footnotes

(1) When sampling to determine compliance with mass effluent limitations, the discharge flow at the time of sampling must be measured and recorded.

(2) This is the minimum number of sampling events required. Permittees are encouraged, and it may be advantageous in demonstrating compliance, to perform more than the minimum number of sampling events.

Supplemental Information

The effluent limitations for Outfall 001 were determined using an effluent discharge rate of 0.043 MGD.

II. DEFINITIONS

At Outfall (XXX) means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line (XXX), or where otherwise specified.

Average refers to the use of an arithmetic mean, unless otherwise specified in this permit. (40 CFR 122.41(l)(4)(iii))

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures and other management practices to prevent or reduce the pollutant loading to surface waters of the Commonwealth. The term also includes treatment requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. The term includes activities, facilities, measures, planning or procedures used to minimize accelerated erosion and sedimentation and manage stormwater to protect, maintain, reclaim, and restore the quality of waters and the existing and designated uses of waters within this Commonwealth before, during and after earth disturbance activities. (25 Pa. Code § 92a.2)

Bypass means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR 122.41(m)(1)(i))

Calendar Week is defined as the seven consecutive days from Sunday through Saturday, unless the permittee has been given permission by DEP to provide weekly data as Monday through Friday based on showing excellent performance of the facility and a history of compliance. In cases when the week falls in two separate months, the month with the most days in that week shall be the month for reporting.

Clean Water Act means the Federal Water Pollution Control Act, as amended. (33 U.S.C.A. §§ 1251 to 1387).

Chemical Additive means a chemical product (including products of disassociation and degradation, collectively "products") introduced into a waste stream that is used for cleaning, disinfecting, or maintenance and which may be detected in effluent discharged to waters of the Commonwealth. The term generally excludes chemicals used for neutralization of waste streams, the production of goods, and treatment of wastewater.

Composite Sample (for all except GC/MS volatile organic analysis) means a combination of individual samples (at least eight for a 24-hour period or four for an 8-hour period) of at least 100 milliliters (mL) each obtained at spaced time intervals during the compositing period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval is proportional to the flow rates over the time period used to produce the composite. (EPA Form 2C)

Composite Sample (for GC/MS volatile organic analysis) consists of at least four aliquots or grab samples collected during the sampling event (not necessarily flow proportioned). A separate analysis should be performed for each sample and the results should be averaged.

Daily Average Temperature means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

Daily Discharge means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day. (25 Pa. Code § 92a.2, 40 CFR 122.2)

Daily Maximum Discharge Limitation means the highest allowable "daily discharge."

Discharge Monitoring Report (DMR) means the DEP or EPA supplied form(s) for the reporting of self-monitoring results by the permittee. (25 Pa. Code § 92a.2, 40 CFR 122.2)

Estimated Flow means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

Geometric Mean means the average of a set of n sample results given by the nth root of their product.

Grab Sample means an individual sample of at least 100 mL collected at a randomly selected time over a period not to exceed 15 minutes. (EPA Form 2C)

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act. (40 CFR 122.2)

Hauled-In Wastes means any waste that is introduced into a treatment facility through any method other than a direct connection to the wastewater collection system. The term includes wastes transported to and disposed of within the treatment facility or other entry points within the collection system.

Immersion Stabilization (i-s) means a calibrated device is immersed in the wastewater until the reading is stabilized.

Instantaneous Maximum Effluent Limitation means the highest allowable discharge of a concentration or mass of a substance at any one time as measured by a grab sample. (25 Pa. Code § 92a.2)

Measured Flow means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

Monthly Average Discharge Limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. (25 Pa. Code § 92a.2)

Municipal Waste means garbage, refuse, industrial lunchroom or office waste and other material, including solid, liquid, semisolid or contained gaseous material resulting from operation of residential, municipal, commercial or institutional establishments and from community activities; and sludge not meeting the definition of residual or hazardous waste under this section from a municipal, commercial or institutional water supply treatment plant, waste water treatment plant or air pollution control facility. (25 Pa. Code § 271.1)

Non-contact Cooling Water means water used to reduce temperature which does not come in direct contact with any raw material, intermediate product, waste product (other than heat), or finished product.

Residual Waste means garbage, refuse, other discarded material or other waste, including solid, liquid, semisolid or contained gaseous materials resulting from industrial, mining and agricultural operations and sludge from an industrial, mining or agricultural water supply treatment facility, wastewater treatment facility or air pollution control facility, if it is not hazardous. The term does not include coal refuse as defined in the Coal Refuse Disposal Control Act. The term does not include treatment sludges from coal mine drainage treatment plants, disposal of which is being carried on under and in compliance with a valid permit issued under the Clean Streams Law. (25 Pa Code § 287.1)

Severe Property Damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR 122.41(m)(1)(ii))

Stormwater means the runoff from precipitation, snow melt runoff, and surface runoff and drainage. (25 Pa. Code § 92a.2)

Stormwater Associated With Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant, and as defined at 40 CFR 122.26(b)(14) (i) - (ix) & (xi) and 25 Pa. Code § 92a.2.

Total Dissolved Solids means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR Part 136.

Toxic Pollutant means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains may, on the basis of information available to DEP cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in these organisms or their offspring. (25 Pa. Code § 92a.2)

III. SELF-MONITORING, REPORTING AND RECORDKEEPING

A. Representative Sampling

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity (40 CFR 122.41(j)(1)). Representative sampling includes the collection of samples, where possible, during periods of adverse weather, changes in treatment plant performance and changes in treatment plant loading. If possible, effluent samples must be collected where the effluent is well mixed near the center of the discharge conveyance and at the approximate mid-depth point, where the turbulence is at a maximum and the settlement of solids is minimized. (40 CFR 122.48, 25 Pa. Code § 92a.61)

2. Records Retention (40 CFR 122.41(j)(2))

   Except for records of monitoring information required by this permit related to the permittee's sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for 3 years from the date of the sample measurement, report or application, unless a longer retention period is required by the permit. The 3-year period shall be extended as requested by DEP or the EPA Regional Administrator.

3. Recording of Results (40 CFR 122.41(j)(3))

   For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

   a. The exact place, date and time of sampling or measurements.
   b. The person(s) who performed the sampling or measurements.
   c. The date(s) the analyses were performed.
   d. The person(s) who performed the analyses.
   e. The analytical techniques or methods used; and the associated detection level.
   f. The results of such analyses.

4. Test Procedures

   a. Facilities that test or analyze environmental samples used to demonstrate compliance with this permit shall be in compliance with laboratory accreditation requirements of Act 90 of 2002 (27 Pa. C.S. §§ 4101-4113) and 25 Pa. Code Chapter 252, relating to environmental laboratory accreditation.

   b. Test procedures (methods) for the analysis of pollutants or pollutant parameters shall be those approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, unless the method is specified in this permit or has been otherwise approved in writing by DEP. (40 CFR 122.41(j)(4), 122.44(i)(1)(iv))

   c. Test procedures (methods) for the analysis of pollutants or pollutant parameters shall be sufficiently sensitive. A method is sufficiently sensitive when 1) the method minimum level is at or below the level of the effluent limit established in the permit for the measured pollutant or pollutant parameter; or 2) the method has the lowest minimum level of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR Chapter I, Subchapters N or O, for the measured pollutant or pollutant parameter; or 3) the method is specified in this permit or has been otherwise approved in writing by DEP for the measured pollutant or pollutant parameter. Permittees have the option of providing matrix or sample-specific minimum levels rather than the published levels. (40 CFR 122.44(i)(1)(iv))

5. Quality/Assurance/Control

In an effort to assure accurate self-monitoring analyses results:

a. The permittee, or its designated laboratory, shall participate in the periodic scheduled quality assurance inspections conducted by DEP and EPA. (40 CFR 122.41(e), 122.41(i)(3))

b. The permittee, or its designated laboratory, shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit, in accordance with 40 CFR Part 136. (40 CFR 122.41(i)(4))

B. Reporting of Monitoring Results

1. The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.44, 92a.61(i) and 40 CFR §§ 122.41(e), 122.44(i)(1))

2. The permittee shall use DEP's electronic Discharge Monitoring Report (eDMR) system to report the results of compliance monitoring under this permit (see www.dep.pa.gov/edmr). Permittees that are not using the eDMR system as of the effective date of this permit shall submit the necessary registration and trading partner agreement forms to DEP's Bureau of Clean Water (BCW) within 30 days of the effective date of this permit and begin using the eDMR system when notified by DEP BCW to do so. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.61(g) and 40 CFR § 122.41(l)(4))

3. Submission of a physical (paper) copy of a Discharge Monitoring Report (DMR) is acceptable under the following circumstances:

   a. For a permittee that is not yet using the eDMR system, the permittee shall submit a physical copy of a DMR to the DEP regional office that issued the permit during the interim period between the submission of registration and trading partner agreement forms to DEP and DEP's notification to begin using the eDMR system.

   b. For any permittee, as a contingency a physical DMR may be mailed to the DEP regional office that issued the permit if there are technological malfunction(s) that prevent the successful submission of a DMR through the eDMR system. In such situations, the permittee shall submit the DMR through the eDMR system within 5 days following remedy of the malfunction(s).

4. DMRs must be completed in accordance with DEP's published DMR instructions (3800-FM-BCW0463). DMRs must be received by DEP no later than 28 days following the end of the monitoring period. DMRs are based on calendar reporting periods and must be received by DEP in accordance with the following schedule:

   - Monthly DMRs must be received within 28 days following the end of each calendar month.
   - Quarterly DMRs must be received within 28 days following the end of each calendar quarter, i.e., January 28, April 28, July 28, and October 28.
   - Semiannual DMRs must be received within 28 days following the end of each calendar semiannual period, i.e., January 28 and July 28.
   - Annual DMRs must be received by January 28, unless Part C of this permit requires otherwise.

5. The permittee shall complete all Supplemental Reporting forms (Supplemental DMRs) attached to this permit, or an approved equivalent, and submit the signed, completed forms as attachments to the DMR, through DEP's eDMR system. DEP's Supplemental Laboratory Accreditation Form (3800-FM-BCW0189) must be completed and submitted to DEP with the first DMR following issuance of this permit, and anytime thereafter when changes to laboratories or methods occur. (25 Pa. Code §§ 92a.3(c), 92a.41(a), 92a.61(g) and 40 CFR § 122.41(l)(4))

6. The completed DMR Form shall be signed and certified by either of the following applicable persons, as defined in 25 Pa. Code § 92a.22:

- For a corporation - by a principal executive officer of at least the level of vice president, or an authorized representative, if the representative is responsible for the overall operation of the facility from which the discharge described in the NPDES form originates.
- For a partnership or sole proprietorship - by a general partner or the proprietor, respectively.
- For a municipality, state, federal or other public agency - by a principal executive officer or ranking elected official.

If signed by a person other than the above and for co-permittees, written notification of delegation of DMR signatory authority must be submitted to DEP in advance of or along with the relevant DMR form. (40 CFR § 122.22(b))

7. If the permittee monitors any pollutant at monitoring points as designated by this permit, using analytical methods described in Part A III.A.4. herein, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR. (40 CFR 122.41(l)(4)(ii))

C. Reporting Requirements

1. Planned Changes to Physical Facilities – The permittee shall give notice to DEP as soon as possible but no later than 30 days prior to planned physical alterations or additions to the permitted facility. A permit under 25 Pa. Code Chapter 91 may be required for these situations prior to implementing the planned changes. A permit application, or other written submission to DEP, can be used to satisfy the notification requirements of this section.

   Notice is required when:

   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b). (40 CFR 122.41(l)(1)(i))

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are not subject to effluent limitations in this permit. (40 CFR 122.41(l)(1)(ii))

   c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR 122.41(l)(1)(iii))

   d. The planned change may result in noncompliance with permit requirements. (40 CFR 122.41(l)(2))

2. Planned Changes to Waste Stream – Under the authority of 25 Pa. Code § 92a.24(a), the permittee shall provide notice to DEP as soon as possible but no later than 45 days prior to any planned changes in the volume or pollutant concentration of its influent waste stream, as specified in paragraphs 2.a. and 2.b., below. Notice shall be provided on the "Planned Changes to Waste Stream" Supplemental Report (3800-FM-BCW0482), available on DEP's website. The permittee shall provide information on the quality and quantity of waste introduced into the facility, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the facility. The Report shall be sent via Certified Mail or other means to confirm DEP's receipt of the notification. DEP will determine if the submission of a new application and receipt of a new or amended permit is required.

   a. Introduction of New Pollutants (25 Pa. Code § 92a.24(a))

      New pollutants are defined as parameters that meet all of the following criteria:

      (i) Were not detected in the facilities' influent waste stream as reported in the permit application; and

(ii) Have not been approved to be included in the permittee's influent waste stream by DEP in writing.

The permittee shall provide notification of the introduction of new pollutants in accordance with paragraph 2 above. The permittee may not authorize the introduction of new pollutants until the permittee receives DEP's written approval.

b. Increased Loading of Approved Pollutants (25 Pa. Code § 92a.24(a))

Approved pollutants are defined as parameters that meet one or more of the following criteria:

(i) Were detected in the facilities' influent waste stream as reported in the permittee's permit application; or

(ii) Have been approved to be included in the permittee's influent waste stream by DEP in writing; or

(iii) Have an effluent limitation or monitoring requirement in this permit.

The permittee shall provide notification of the introduction of increased influent loading (lbs/day) of approved pollutants in accordance with paragraph 2 above when (1) the cumulative increase in influent loading (lbs/day) exceeds 20% of the maximum loading reported in the permit application, or a loading previously approved by DEP, or (2) may cause an exceedance in the effluent of Effluent Limitation Guidelines (ELGs) or limitations in Part A of this permit, or (3) may cause interference or pass through at the facility (as defined at 40 CFR 403.3), or (4) may cause exceedances of the applicable water quality standards in the receiving stream. Unless specified otherwise in this permit, if DEP does not respond to the notification within 30 days of its receipt, the permittee may proceed with the increase in loading. The acceptance of increased loading of approved pollutants may not result in an exceedance of ELGs or effluent limitations and may not cause exceedances of the applicable water quality standards in the receiving stream.

3. Reporting Requirements for Hauled-In Wastes

a. Receipt of Residual Waste

(i) The permittee shall document the receipt of all hauled-in residual wastes (including but not limited to wastewater from oil and gas wells, food processing waste, and landfill leachate), as defined at 25 Pa. Code § 287.1, that are received for processing at the treatment facility. The permittee shall report hauled-in residual wastes on a monthly basis to DEP on the "Hauled In Residual Wastes" Supplemental Report (3800-FM-BCW0450) as an attachment to the DMR. If no residual wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report. The information used to develop the Report shall be retained by the permittee for five years from the date of receipt and must be made available to DEP or EPA upon request.

(1) The dates that residual wastes were received.

(2) The volume (gallons) of wastes received.

(3) The license plate number of the vehicle transporting the waste to the treatment facility.

(4) The permit number(s) of the well(s) where residual wastes were generated, if applicable.

(5) The name and address of the generator of the residual wastes.

(6) The type of wastewater.

The transporter of residual waste must maintain these and other records as part of the daily operational record (25 Pa. Code § 299.219). If the transporter is unable to provide this information or the permittee has not otherwise received the information from the generator, the residual wastes shall not be accepted by the permittee until such time as the permittee receives such information from the transporter or generator.

(ii) The following conditions apply to the characterization of residual wastes received by the permittee:

(1) If the generator is required to complete a chemical analysis of residual wastes in accordance with 25 Pa. Code § 287.51, the permittee must receive and maintain on file a chemical analysis of the residual wastes it receives. The chemical analysis must conform to the Bureau of Waste Management's Form 26R except as noted in paragraph (2), below. Each load of residual waste received must be covered by a chemical analysis if the generator is required to complete it.

(2) For wastewater generated from hydraulic fracturing operations ("frac wastewater") within the first 30 production days of a well site, the chemical analysis may be a general frac wastewater characterization approved by DEP. Thereafter, the chemical analysis must be waste-specific and be reported on the Form 26R.

b. Receipt of Municipal Waste

(i) The permittee shall document the receipt of all hauled-in municipal wastes (including but not limited to septage and liquid sewage sludge), as defined at 25 Pa. Code § 271.1, that are received for processing at the treatment facility. The permittee shall report hauled-in municipal wastes on a monthly basis to DEP on the "Hauled In Municipal Wastes" Supplemental Report (3800-FM-BCW0437) as an attachment to the DMR. If no municipal wastes were received during a month, submission of the Supplemental Report is not required.

The following information is required by the Supplemental Report:

(1) The dates that municipal wastes were received.

(2) The volume (gallons) of wastes received.

(3) The BOD_5 concentration (mg/l) and load (lbs) for the wastes received.

(4) The location(s) where wastes were disposed of within the treatment facility.

(ii) Sampling and analysis of hauled-in municipal wastes must be completed to characterize the organic strength of the wastes, unless composite sampling of influent wastewater is performed at a location downstream of the point of entry for the wastes.

4. Unanticipated Noncompliance or Potential Pollution Reporting

a. Immediate Reporting - The permittee shall immediately report any incident causing or threatening pollution in accordance with the requirements of 25 Pa. Code §§ 91.33 and 92a.41(b).

(i) If, because of an accident, other activity or incident a toxic substance or another substance which would endanger users downstream from the discharge, or would otherwise result in pollution or create a danger of pollution or would damage property, the permittee shall immediately notify DEP by telephone of the location and nature of the danger. Oral notification to the Department is required as soon as possible, but no later than 4 hours after the permittee becomes aware of the incident causing or threatening pollution.

(ii) If reasonably possible to do so, the permittee shall immediately notify downstream users of the waters of the Commonwealth to which the substance was discharged. Such notice shall include the location and nature of the danger.

(iii) The permittee shall immediately take or cause to be taken steps necessary to prevent injury to property and downstream users of the waters from pollution or a danger of pollution and, in addition, within 15 days from the incident, shall remove the residual substances contained thereon or therein from the ground and from the affected waters of this Commonwealth to the extent required by applicable law.

b. The permittee shall report any noncompliance which may endanger health or the environment in accordance with the requirements of 40 CFR 122.41(l)(6). These requirements include the following obligations:

(i) 24 Hour Reporting - The permittee shall orally report any noncompliance with this permit which may endanger health or the environment within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported within 24 hours under this paragraph:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit;

(2) Any upset which exceeds any effluent limitation in the permit; and

(3) Violation of the maximum daily discharge limitation for any of the pollutants listed in the permit as being subject to the 24-hour reporting requirement. (40 CFR 122.44(g))

(ii) Written Report - A written submission shall also be provided within 5 days of the time the permittee becomes aware of any noncompliance which may endanger health or the environment. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(iii) Waiver of Written Report - DEP may waive the written report on a case-by-case basis if the associated oral report has been received within 24 hours from the time the permittee becomes aware of the circumstances which may endanger health or the environment. Unless such a waiver is expressly granted by DEP, the permittee shall submit a written report in accordance with this paragraph. (40 CFR 122.41(l)(6)(iii))

5. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraph C.4 of this section or specific requirements of compliance schedules, at the time DMRs are submitted, on the Non-Compliance Reporting Form (3800-FM-BCW0440). The reports shall contain the information listed in paragraph C.4.b.(ii) of this section. (40 CFR 122.41(l)(7))

D. Specific Toxic Pollutant Notification Levels (for Manufacturing, Commercial, Mining, and Silvicultural Direct Dischargers) - The permittee shall notify DEP as soon as it knows or has reason to believe the following: (40 CFR 122.42(a))

1. That any activity has occurred, or will occur, which would result in the discharge of any toxic pollutant which is not limited in this permit, if that discharge on a routine or frequent basis will exceed the highest of the following "notification levels": (40 CFR 122.42(a)(1))

a. One hundred micrograms per liter.

b. Two hundred micrograms per liter for acrolein and acrylonitrile.

c. Five hundred micrograms per liter for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol.

d. One milligram per liter for antimony.

e. Five times the maximum concentration value reported for that pollutant in this permit application.

f. Any other notification level established by DEP.

2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in this permit, if that discharge will exceed the highest of the following "notification levels": (40 CFR 122.42(a)(2))

a. Five hundred micrograms per liter.

b. One milligram per liter for antimony.

c. Ten times the maximum concentration value reported for that pollutant in the permit application.

d. Any other notification level established by DEP.

PART B

I. MANAGEMENT REQUIREMENTS

A. Compliance

1. The permittee shall comply with all conditions of this permit. If a compliance schedule has been established in this permit, the permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in this permit. (40 CFR 122.41(a)(1))

2. The permittee shall submit reports of compliance or noncompliance, or progress reports as applicable, for any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline. (25 Pa. Code § 92a.51(c), 40 CFR 122.47(a)(4))

B. Permit Modification, Termination, or Revocation and Reissuance

1. This permit may be modified, terminated, or revoked and reissued during its term in accordance with 25 Pa. Code § 92a.72 and 40 CFR 122.41(f).

2. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. (40 CFR 122.41(f))

3. In the absence of DEP action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions. (40 CFR 122.41(a)(1))

C. Duty to Provide Information

1. The permittee shall furnish to DEP, within a reasonable time, any information which DEP may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. (40 CFR 122.41(h))

2. The permittee shall furnish to DEP, upon request, copies of records required to be kept by this permit. (40 CFR 122.41(h))

3. Other Information - Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to DEP, it shall promptly submit the correct and complete facts or information. (40 CFR 122.41(l)(8))

D. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit. (40 CFR 122.41(e))

E. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge, sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR 122.41(d))

F. Bypassing

1. Bypassing Not Exceeding Permit Limitations - The permittee may allow a bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions in paragraphs two, three and four of this section. (40 CFR 122.41(m)(2))

2. Other Bypassing - In all other situations, bypassing is prohibited and DEP may take enforcement action against the permittee for bypass unless:

   a. A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage." (40 CFR 122.41(m)(4)(i)(A))

   b. There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance. (40 CFR 122.41(m)(4)(i)(B))

   c. The permittee submitted the necessary notice required in F.4.a. and b. below. (40 CFR 122.41(m)(4)(i)(C))

3. DEP may approve an anticipated bypass, after considering its adverse effects, if DEP determines that it will meet the conditions listed in F.2. above. (40 CFR 122.41(m)(4)(ii))

4. Notice

   a. Anticipated Bypass – If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least 10 days before the bypass. (40 CFR 122.41(m)(3)(i))

   b. Unanticipated Bypass – The permittee shall submit oral notice of any other unanticipated bypass within 24 hours, regardless of whether the bypass may endanger health or the environment or whether the bypass exceeds effluent limitations. The notice shall be in accordance with Part A III.C.4.b.

G. Termination of Permit Coverage (25 Pa. Code § 92a.74 and 40 CFR 122.64)

1. Notice of Termination (NOT) – If the permittee plans to cease operations or will otherwise no longer require coverage under this permit, the permittee shall submit DEP's NPDES Notice of Termination (NOT) for Permits Issued Under Chapter 92a (3800-BCW-0410), signed in accordance with Part A III.B.6 of this permit, at least 30 days prior to cessation of operations or the date by which coverage is no longer required.

2. Where the permittee plans to cease operations, NOTs must be accompanied with an operation closure plan that identifies how tankage and equipment will be decommissioned and how pollutants will be managed, as applicable.

3. The permittee shall submit the NOT to the DEP regional office with jurisdiction over the county in which the facility is located.

II. PENALTIES AND LIABILITY

A. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318 or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative and/or criminal penalties as set forth in 40 CFR 122.41(a)(2).

Any person or municipality, who violates any provision of this permit; any rule, regulation or order of DEP; or any condition or limitation of any permit issued pursuant to the Clean Streams Law, is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

B. Falsifying Information

Any person who does any of the following:

- Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit, or

- Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or noncompliance)

Shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 Pa.C.S.A § 4904 and 40 CFR 122.41(j)(5) and (k)(2).

C. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603 or 605 of the Clean Streams Law.

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities or penalties to which the permittee is or may be subject to under the Clean Water Act and the Clean Streams Law.

D. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. (40 CFR 122.41(c))

III. OTHER RESPONSIBILITIES

A. Right of Entry

Pursuant to Sections 5(b) and 305 of Pennsylvania's Clean Streams Law, and Title 25 Pa. Code Chapter 92a and 40 CFR 122.41(i), the permittee shall allow authorized representatives of DEP and EPA, upon the presentation of credentials and other documents as may be required by law:

1. To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit; (40 CFR 122.41(i)(1))

2. To have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit; (40 CFR 122.41(i)(2))

3. To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit; and (40 CFR 122.41(i)(3))

4. To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Clean Streams Law, any substances or parameters at any location. (40 CFR 122.41(i)(4))

B. Transfer of Permits

1. Transfers by modification. Except as provided in paragraph 2 of this section, a permit may be transferred by the permittee to a new owner or operator only if this permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (40 CFR 122.61(a))

2. Automatic transfers. As an alternative to transfers under paragraph 1 of this section, any NPDES permit may be automatically transferred to a new permittee if:

   a. The current permittee notifies DEP at least 30 days in advance of the proposed transfer date in paragraph 2.b. of this section; (40 CFR 122.61(b)(1))

   b. The notice includes the appropriate DEP transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage and liability between them; (40 CFR 122.61(b)(2))

   c. DEP does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue this permit, the transfer is effective on the date specified in the agreement mentioned in paragraph 2.b. of this section; and (40 CFR 122.61(b)(3))

   d. The new permittee is in compliance with existing DEP issued permits, regulations, orders and schedules of compliance, or has demonstrated that any noncompliance with the existing permits has been resolved by an appropriate compliance action or by the terms and conditions of the permit (including compliance schedules set forth in the permit), consistent with 25 Pa. Code § 92a.51 (relating to schedules of compliance) and other appropriate DEP regulations. (25 Pa. Code § 92a.71)

3. In the event DEP does not approve transfer of this permit, the new owner or operator must submit a new permit application.

C. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege. (40 CFR 122.41(g))

D. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for a new permit. (40 CFR 122.41(b))

E. Other Laws

The issuance of this permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

IV. ANNUAL FEES

Permittees shall pay an annual fee in accordance with 25 Pa. Code § 92a.62. Annual fee amounts are specified in the following schedule and are due on each anniversary of the effective date of the most recent new or reissued permit. All flows identified in the schedule are annual average design flows. (25 Pa. Code § 92a. 62)

Minor IW Facility without ELG (Effluent Limitation Guideline)	$500
Minor IW Facility with ELG	$1,500
Major IW Facility < 250 MGD (million gallons per day)	$5,000
Major IW Facility ≥ 250 MGD	$25,000
IW Stormwater Individual Permit	$1,000
CAAP (Concentrated Aquatic Animal Production Facility)	$0

As of the effective date of this permit, the facility covered by the permit is classified in the following fee category: **Minor IW Facility without ELG.**

Invoices for annual fees will be mailed to permittees approximately three months prior to the due date. In the event that an invoice is not received, the permittee is nonetheless responsible for payment. Throughout a five year permit term, permittees will pay four annual fees followed by a permit renewal application fee in the last year of permit coverage. Permittees may contact DEP at 717-787-6744 with questions related to annual fees. The fees identified above are subject to change in accordance with 25 Pa. Code § 92a.62(e).

Payment for annual fees shall be remitted to DEP at the address below by the anniversary date. Checks should be made payable to the Commonwealth of Pennsylvania.

PA Department of Environmental Protection
Bureau of Clean Water
Re: Chapter 92a Annual Fee
P.O. Box 8466
Harrisburg, PA 17105-8466

PART C

I. OTHER REQUIREMENTS

A. The approval herein given is specifically made contingent upon the permittee acquiring all necessary property rights by easement or otherwise, providing for the satisfactory construction, operation, maintenance or replacement of all structures associated with the herein approved discharge in, along, or across private property, with full rights of ingress, egress and regress.

B. Collected screenings, slurries, sludges, and other solids shall be handled, recycled and/or disposed of in compliance with the Solid Waste Management Act (35 P.S. §§ 6018.101 – 6018.1003), 25 Pa. Code Chapters 287, 288, 289, 291, 295, 297, and 299 (relating to requirements for landfilling, impoundments, land application, composting, processing, and storage of residual waste), Chapters 261a, 262a, 263a, and 270a (related to identification of hazardous waste, requirements for generators and transporters, and hazardous waste, requirements for generators and transporters, and hazardous waste permit programs), federal regulation 40 CFR Part 257, The Clean Streams Law, and the Federal Clean Water Act and its amendments. Screenings collected at intake structures shall be collected and managed and not be returned to the receiving waters.

The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

C. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology (BAT) Economically Achievable or to Best Conventional Technology (BCT) is developed by DEP or EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding limitations of this permit (or if it controls pollutants not covered by this permit), DEP may modify or revoke and reissue the permit to conform with that standard or limitation.

D. The attention of the permittee is directed to the fact that effluent is discharged to a location with little or no assimilative capacity or dilution during critical periods. If the effluent creates a health hazard or nuisance, the permittee shall, upon notice from DEP, provide such additional treatment as may be required by DEP.

II. GROUNDWATER CLEANUP

A. If the applicable standard or effluent guideline limitation relating to the application for Best Available Technology Economically Achievable (BAT) or to Best Conventional Technology (BCT) is developed by the Department, or by EPA for this type of industry, and if such standard or limitation is more stringent than the corresponding conditions of this permit (or if it controls pollutants not covered by this permit), then the Department reserves the right to modify, or to revoke and reissue the permit to conform with that standard or limitation.

B. Sludges and other solids shall be handled and disposed of in compliance with 25 Pa. Code, Chapters 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments. The permittee is responsible to obtain or assure that contracted agents have all necessary permits and approvals for the handling, storage, transport and disposal of solid waste materials generated as a result of wastewater treatment.

C. The permittee shall monitor the quality of the groundwater system operation as follows:

1. Quarterly analysis for Tetrachloroethylene, 1-1-1 Trichloroethane, and Trichloroethylene at Monitoring Wells 4 and 5 having no free products. The quarterly measurement of the water level and pH shall also be conducted at Monitoring Wells 4 and 5.

This information shall be submitted to the Environmental Cleanup Program on a quarterly basis. In addition, the Groundwater Monitoring Data Report form (3800-FM-BCW0443) shall be submitted to DEP's Clean Water Program on a quarterly basis, as an attachment to the appropriate DMR.

If the permittee monitors any pollutant and/or performs any measurements more frequently than the permit requires, the results of this monitoring shall be included on the quarterly report.

D. Summary reports providing groundwater quality data from quarterly events, semiannual water table elevation maps, and a narrative discussion including tables and maps shall be submitted annually to the Environmental Cleanup Program, on the anniversary date of this permit. The narrative report shall evaluate the overall operation of the system demonstrating its effectiveness in containing and remediating the contaminant plume. If modification to the operation is proposed, details must be submitted in the report.

E. There shall be no discharge of stripper tower cleaning wastewaters to waters of the Commonwealth. Cleaning wastewaters shall be discharged to the sanitary sewer or hauled off site for proper disposal.

F. The cleanup operation shall continue until a minimum of one year's data of the untreated groundwater and all monitoring wells (samples taken at least quarterly) have documented a concentration that is protective of the environment. The cleanup operation shall not be considered terminated until the permittee further documents for a minimum of one year after pumping has ceased (samples taken quarterly) that a concentration of pollutants protective of the environment has been maintained in the untreated groundwater and all monitoring wells. Written approval to terminate must be received from DEP's Clean Water Program prior to shut-down.

G. The permittee shall operate the treatment facilities approved herein on a continual basis. If accidental breakdown or normal periodic maintenance should cause cessation of operation, the permittee shall take satisfactory measures to ensure the treatment works are placed back in operation at the earliest possible time. The permittee shall orally report to the Department within 24 hours of an unanticipated temporary shutdown of the treatment facility that is longer than 24 hours in duration or at least 24 hours prior to an anticipated maintenance shutdown.

3800-FM-BCW0462 12/2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

PRIMARY FACILITY NAME/ADDRESS

NAME	ABB Installation Products - Perkasie Plant
CLIENT	ABB Installation Products, Inc.
ADDRESS	131 Phoenix Crossing
	Bloomfield, CT 06002
LOCATION	East Rockhill Township
	Bucks County
WATERSHED	3-E

PA0040321	001
PERMIT NUMBER	OUTFALL NUMBER

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY

Reporting Frequency:	Monthly
DMR Effective From:	April 1, 2020
DMR Effective To:	March 31, 2025
Permit Expires:	March 31, 2025
Permit Application Due:	October 2, 2024

___ Check Here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
Flow	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	Report Avg Mo	XXX	GPD	XXX	XXX	XXX	XXX		1/week	Measured
pH	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	6.0 Inst Min	XXX	9.0 IMAX	S.U.		1/month	Grab
Trichloroethylene	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	0.003 Avg Mo	0.036 IMAX	mg/L		1/month	Grab

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel 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. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).		TELEPHONE		DATE		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS *(Report all violations on the "Non-Compliance Reporting Form")*

3800-FM-BCW0462 12/2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PRIMARY FACILITY NAME/ADDRESS

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
DISCHARGE MONITORING REPORT (DMR)

NAME	ABB Installation Products - Perkasie Plant
CLIENT	ABB Installation Products, Inc.
ADDRESS	131 Phoenix Crossing
	Bloomfield, CT 06002
LOCATION	East Rockhill Township
	Bucks County
WATERSHED	3-E

PA0040321	001
PERMIT NUMBER	OUTFALL NUMBER

MONITORING PERIOD						
YEAR	MO	DAY	TO	YEAR	MO	DAY

Reporting Frequency:	Quarterly
DMR Effective From:	April 1, 2020
DMR Effective To:	March 31, 2025
Permit Expires:	March 31, 2025
Permit Application Due:	October 2, 2024

___ Check Here if No Discharge

NOTE: Read Instructions before completing this form

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		VALUE	VALUE	UNITS	VALUE	VALUE	VALUE	UNITS			
1,1,1-Trichloroethane Industrial Influent	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	XXX	Report IMAX	mg/L		1/quarter	Grab
1,1,1-Trichloroethane	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	XXX	Report IMAX	mg/L		1/quarter	Grab
Tetrachloroethylene	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	XXX	Report IMAX	mg/L		1/quarter	Grab
Tetrachloroethylene Industrial Influent	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	XXX	Report IMAX	mg/L		1/quarter	Grab
Trichloroethylene Industrial Influent	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT	XXX	XXX	XXX	XXX	XXX	Report IMAX	mg/L		1/quarter	Grab

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER	I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel 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. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).		TELEPHONE		DATE		
TYPED OR PRINTED		SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS *(Report all violations on the "Non-Compliance Reporting Form")*

Supplemental Form Inventory

The following supplemental forms (indicated in the check box column) are attached to this permit and must be completed and submitted to DEP in accordance with the permit and the supplemental form instructions. If the eDMR system is used to submit DMR reports, the spreadsheet versions of these supplemental forms, where applicable, should be used and attached to the eDMR submissions. A link to DEP's supplemental form website is available when logging into the eDMR system.

Check Box	Supplemental Form Name and No.
☐	Daily Effluent Monitoring (3800-FM-BCW0435)
☐	Influent & Process Control (3800-FM-BCW0436)
☐	Hauled in Municipal Wastes (3800-FM-BCW0437)
☐	Sewage Sludge/Biosolids Production and Disposal (3800-FM-BCW0438)
☐	Chemical Additives Usage (3800-FM-BCW0439)
☒	Non-Compliance Reporting Form (3800-FM-BCW0440)
☐	CSO Monthly Summary Report (3800-FM-BCW0441)
☐	CSO Detailed Report (3800-FM-BCW0442)
☒	Groundwater Monitoring Data Report (3800-FM-BCW0443)
☐	TMDL Annual Load Summary (3800-FM-BCW0448)
☐	Land Application Systems (3800-FM-BCW0449)
☐	Hauled in Residual Wastes (3800-FM-BCW0450)
☐	Surface Water Monitoring Data Report (3800-FM-BCW0461)
☒	Lab Accreditation Form (3800-FM-BCW0189)
☐	Whole Effluent Toxicity Test Summary Report (3800-FM-BCW0485)
☐	Storm Water Annual Report
☐	Other:

3800-FM-BCW0443 10/2017

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

SUPPLEMENTAL REPORT
GROUNDWATER MONITORING DATA REPORT

Facility Name: ABB Installation Products – Perkasie Plant Month: _____ Year: _____
Municipality: East Rockhill Township County: Bucks Permit No.: PA0040321
Watershed: 3-E Monitoring Well No.: _____

FIELD ANALYSIS

Top of Casing Elevation (ft)		Well Diameter (ft)		Temperature (°C)	
Initial Depth of Water (ft)		Total Well Depth (ft)		pH (SU)	
Volume of Water in Well (gal)		Total Vol Purged (gal)		Conductivity (µmhos/cm)	

LAB ANALYSIS

Sample Date	Parameter	Q	Result	Units	Lab Reporting Limit	Units

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel 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. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Prepared By: _____ Signature: _____
Title: _____ Date: _____

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

INSTRUCTIONS FOR COMPLETING GROUNDWATER MONITORING SUPPLEMENTAL REPORT

Use this form to document groundwater monitoring results, where monitoring is required by the permit.

1. Enter Facility Name, Municipality, County, Watershed No., Monitoring Period (month, quarter or date range), Year, Permit No., and Monitoring Well No. Complete a separate report for each monitoring well.

Field Analysis

2. Report Top of Casing elevation (ft) for the monitoring well, the well diameter (ft), the initial depth to water (prior to sampling) (ft), the total well depth (ft), the volume of water in the well (gallons), and the total volume of water purged (gallons). The volume of water in the well is calculated as follows:

$$(\pi * \text{diameter}^2 / 4) * (\text{total well depth (ft)} - \text{depth to water (ft)}) * 7.48 \text{ gallons/ft}^3$$

3. Report the water temperature, pH, and conductivity prior to sampling. Department guidance recommends that sampling occur once these parameters begin to stabilize during well purging. To determine the total volume purged you must record (in a field book) the total time required for the parameters to stabilize and the average flow rate during that time.

Lab Analysis

4. Enter the sampling date, parameter name, result and laboratory reporting limit in the space provided. Use the Qualifier (Q) column to enter "<" or ">" as appropriate for "non-detect" results and results greater than the reporting limit, respectively, or other qualifier codes. Report the sample result units and laboratory reporting limit units in the spaces provided.

5. Type the name of the person who prepared the form, the person's job title, and sign and date the form after reading the certification statement.

3800-FM-BCW0189 10/2017

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

SUPPLEMENTAL LABORATORY ACCREDITATION FORM[1]

Permittee Name:	ABB Installation Products, Inc.
Address:	131 Phoenix Crossing Bloomfield, CT 06002

PERMIT NUMBER	**MONITORING PERIOD** Year/Month/Day						
PA0040321				TO			

PARAMETER	ANALYSIS METHOD	LAB NAME	LAB ID NUMBER[2]

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 possibly of fine and imprisonment for knowing violations.

Name/Title Principal Executive Officer **Phone:** _____ **Signature of Principal Executive Officer or Authorized Agent**

_____ **Date:** _____ _____

[1] Submit this form with the first Discharge Monitoring Report (DMR) or Annual Report, where sample results are submitted to the Department for compliance purposes. You do not need to send this form to the Department again UNLESS there has been a change to the lab(s), parameter(s) or method(s) of analysis.

[2] For parameter(s) covered under accreditation-by-rule, submit the lab's registration number in lieu of an accreditation number.

3800-FM-BCW0189 10/2017

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

SUPPLEMENTAL LABORATORY ACCREDITATION FORM[1]

Permittee Name: ABB Installation Products, Inc.

Address: 131 Phoenix Crossing
Bloomfield, CT 06002

PERMIT NUMBER	MONITORING PERIOD Year/Month/Day						
PA0040321				TO			

PARAMETER	ANALYSIS METHOD	LAB NAME	LAB ID NUMBER[2]

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 possibly of fine and imprisonment for knowing violations.

Name/Title Principal Executive Officer _____

Phone: _____

Signature of Principal Executive Officer or Authorized Agent _____

_____

Date: _____

[1] Submit this form with the first Discharge Monitoring Report (DMR) or Annual Report, where sample results are submitted to the Department for compliance purposes. You do not need to send this form to the Department again UNLESS there has been a change to the lab(s), parameter(s) or method(s) of analysis.

[2] For parameter(s) covered under accreditation-by-rule, submit the lab's registration number in lieu of an accreditation number.

3800-FM-BCW0440 12/2016

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). **Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures.** If you are reporting other non-compliance events, and the reporting deadline does not coincide with your submission of the DMR, it should be submitted separately to the Department by the reporting deadline set forth in the permit. See instructions for more information.

Facility Name: ABB Installation Products – Perkasie Plant Month: _____ Year: _____

Municipality: East Rockhill Township County: Bucks Permit No.: PA0040321

☐ **Violations of Permit Effluent Limitations***

Date	Parameter	Permit Limit	Units	Statistical Code	Result	Units	Cause of Violation	Corrective Action Taken

☐ **Sanitary Sewer Overflows and Other Unauthorized Discharges***

Event Date	Substance Discharged	Location	Volume (gals)	Duration (hrs)	Receiving Waters	Impact on Waters	Cause of Discharge	Date DEP Notified

☐ **Other Permit Violations***

- ☐ Sample collection less frequent than required Explain _____
- ☐ Sample type not in compliance with permit Explain _____
- ☐ Violation of permit schedule Explain _____
- ☐ Other Explain _____
- ☐ Other Explain _____

*** If the space provided is not sufficient to record all information, please attach additional sheets.**

I certify under penalty of law that this document was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel 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. See 18 Pa. C.S. § 4904 (relating to unsworn falsification).

Prepared By: _____ Signature: _____

Title: _____ Date: _____

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

INSTRUCTIONS FOR COMPLETING NON-COMPLIANCE REPORTING FORM

Use this supplemental form to report all permit violations and any other non-compliance that may endanger health or the environment, in accordance with your permit. Complete all sections that apply. If you are reporting violations of permit limits, monitoring requirements or schedules that do not pose an immediate threat to health or the environment, you may attach this form to the Discharge Monitoring Report (DMR). If you are reporting other non-compliance events, and the deadline for a written report (e.g., 5 days) does not coincide with your submission of the DMR, this form should be submitted separately to the Department by the reporting deadline set forth in the permit.

If you are unsure of whether an incident constitutes non-compliance that may endanger health or the environment, it is recommended that you notify the Department verbally as soon as possible after you become aware of the incident. Title 25, Pa. Code §§ 91.33 and 91.34 (regarding incidents causing or threatening pollution and activities utilizing pollutants, respectively), in part requires immediate notification by telephone to the Department of pollution incidents, remediation, and may require an additional report on the incident or plan of pollution prevention measures.

Instructions:

1. Enter the name of the facility, the municipality and county where it is located, the month and year when violations occurred, and the NPDES or WQM permit number for the facility.

2. If there were violations of permit effluent limitations during the month, check the box next to "Violations of Permit Effluent Limitations." (Note – if using the electronic version of this form, check the boxes first, and then select Tools – Unprotect Document to enter additional information). Enter the date of the violation (if a violation of a minimum or maximum limit, the date of sample collection, or if a violation of an average limit, the end of the monitoring period), the parameter name, the permit limit and units, the statistical code (e.g., "MIN", "MAX", "MO AVG", etc.), the measured result and units, the cause of the violation and the corrective action taken. **If there are more than two violations during the monitoring period and/or if the space provided is insufficient to explain the cause or corrective action, please attach additional pages.**

3. If there are Sanitary Sewer Overflow (SSO) discharges or other unauthorized discharges from the facility (e.g., spills, leaks, etc.) that enter or have the potential to enter waters of the Commonwealth, including groundwater, notify DEP by phone as soon as possible, and document the discharge on this form by checking the box next to "Sanitary Sewer Overflows and Other Unauthorized Discharges." Record the event (discharge) date, the substance discharged (e.g., sewage, on-site chemicals, etc.), the location where the discharge occurred (e.g., manhole number, pump station name, equipment description, etc.), the volume discharged (gallons), the approximate duration of the discharge (hours), the receiving waters (name of stream or groundwater), the impact on the receiving waters, if observed (e.g., solids deposition, foam, fish kill, etc.), the cause of the discharge, and the date on which the Department was verbally notified. **If there are more than two discharge events during the monitoring period and/or if the space provided is insufficient to explain the discharge, please attach additional pages.**

4. If there are other violations of the permit, check the box next to "Other Permit Violations," and check the appropriate box that describes the violation type. If not identified on the form, check the box next to "Other" and provide a written explanation. **If the space provided is insufficient to explain the violation, please attach additional pages.**

5. Type your name and title and sign and date the form after reading the certification statement.

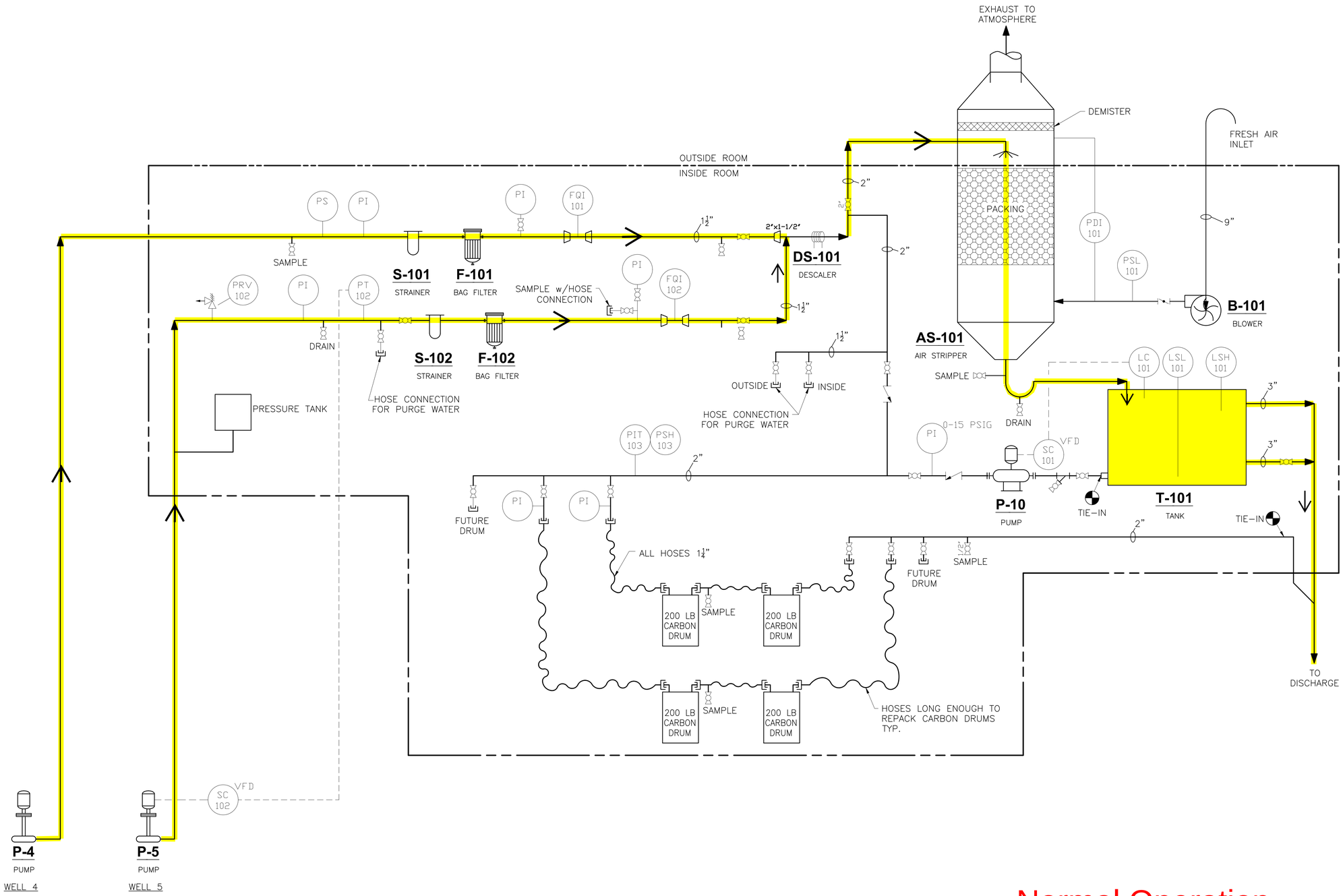
If you have questions about completing this form, contact the Clean Water Program Operations Section of the Department in your region:

Southeast Region – (484) 250-5970
Northeast Region – (570) 826-2553
Southcentral Region – (717) 705-4707
Northcentral Region – (570) 327-3636
Southwest Region – (412) 442-4000
Northwest Region – (814) 332-6942

ATTACHMENT B

Figures

Figure 1 – Groundwater Recovery and Treatment System – Well Locations
Figure 2 – Equipment Layout in Treatment Room
Figure 3 – Flow Diagram – Normal Operation
Figure 4 – Flow Diagram – Normal Operation with Carbon Passthrough
Figure 5 – Flow Diagram – Normal Operation with Additional Connections



Normal Operation

AS-101 AIR STRIPPER	P-4 WELL PUMP	P-5 WELL PUMP	P-10 CARBON DRUM PUMP	T-101 BUFFER TANK	S-101/102 STRAINER	F-101/102 BAG FILTER	B-101 BLOWER	DS-101 DESCALER
24" DIAMETER 15' HIGH PACKING-1" JAEGER TRI-PACK MESH DEMISTER UP TO 30 GPM	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: HORIZONTAL CAPACITY: 30 GPM @ 21' TDH SUCTION & DISCHARGE: 1" WETTED MAT'L: POLYPROPYLENE MOTOR: 1/3 HP, 3450 RPM, 230V, 3PH MFG: FTI	SIZE: 4'-6"x3'-0"x3'-0" HT VOLUME: 270 GAL MAT'L: POLYETHYLENE			MFG: PEERLESS MOTOR: XX HP, XXX RPM, XXXV, XPH	MFG: SCALEBLASTER MODEL: SB-250 POWER: 110V

AS BUILT

IES ENGINEERS
ENGINEERING FOR INDUSTRY
1720 WALTON ROAD
PHONE: (610) 828-3078
BLUE BELL, PA 19422
FAX: (610) 828-7842

REV.	DATE	DESCRIPTION	BY	APP
A	03-20-19	CLIENT REVIEW		
0	04-29-19	RECORD DRAWING		

NOTE:
THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLUTION.

CLIENT
ABB
FORMERLY THOMAS AND BETTS
PERKASIE PLANT

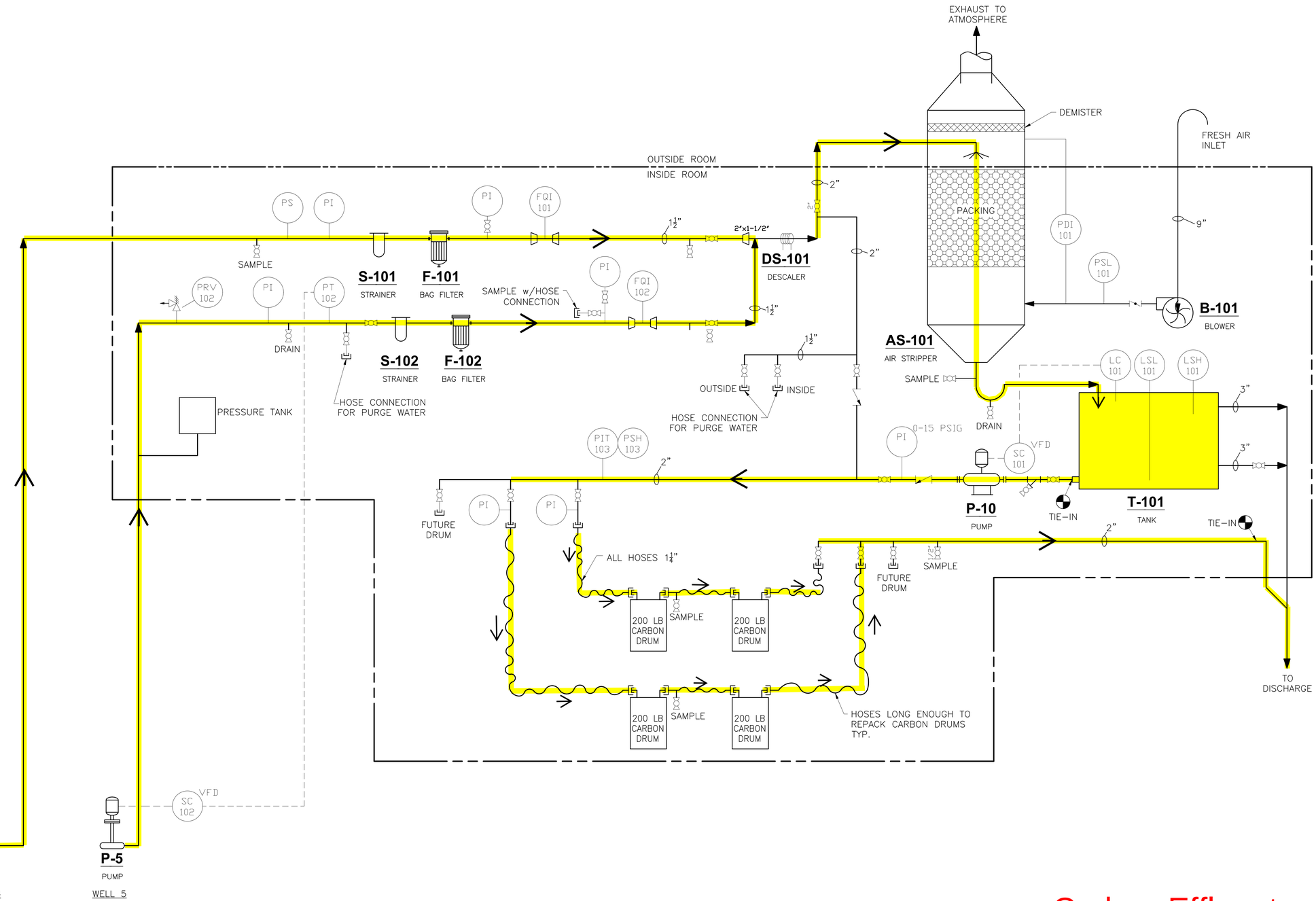
PROJECT TITLE
AIR STRIPPER SYSTEM MODIFICATION
MARCH 2019

DRAWING TITLE
PIPING & INSTRUMENTATION DIAGRAM

LAST UPDATE: 04-29-19	ENGINEER: BM	RECORDS CONTROL	IES CONTRACT No.: EV190352.03
DATE: 03-14-19	DESIGNER: DM		CADD FILE No.: 19035203P101
SCALE: -	DRAWN: DM		XREF FILE(S): -

DRAWING NUMBER
P101

SHEET 1 OF 1
REVISION LEVEL 0



Carbon Effluent

AS-101 AIR STRIPPER	P-4 WELL PUMP	P-5 WELL PUMP	P-10 CARBON DRUM PUMP	T-101 BUFFER TANK	S-101/102 STRAINER	F-101/102 BAG FILTER	B-101 BLOWER	DS-101 DESCALER
24" DIAMETER 15' HIGH PACKING-1" JAEGER TRI-PACK MESH DEMISTER UP TO 30 GPM	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: HORIZONTAL CAPACITY: 30 GPM @ 21' TDH SUCTION & DISCHARGE: 1" WETTED MAT'L: POLYPROPYLENE MOTOR: 1/3 HP, 3450 RPM, 230V, 3PH MFG: FTI	SIZE: 4'-6"x3'-0"x3'-0" HT VOLUME: 270 GAL MAT'L: POLYETHYLENE			MFG: PEERLESS MOTOR: XX HP, XXX RPM, XXXV, XPH	MFG: SCALEBLASTER MODEL: SB-250 POWER: 110V

AS BUILT

IES ENGINEERS
ENGINEERING FOR INDUSTRY
1720 WALTON ROAD
PHONE: (610) 828-3078
BLUE BELL, PA 19422
FAX: (610) 828-7842

REV.	DATE	DESCRIPTION	BY	APP
A	03-20-19	CLIENT REVIEW		
0	04-29-19	RECORD DRAWING		

NOTE:
THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLUTION.

CLIENT
ABB
FORMERLY THOMAS AND BETTS
PERKASIE PLANT

PROJECT TITLE
AIR STRIPPER SYSTEM MODIFICATION MARCH 2019

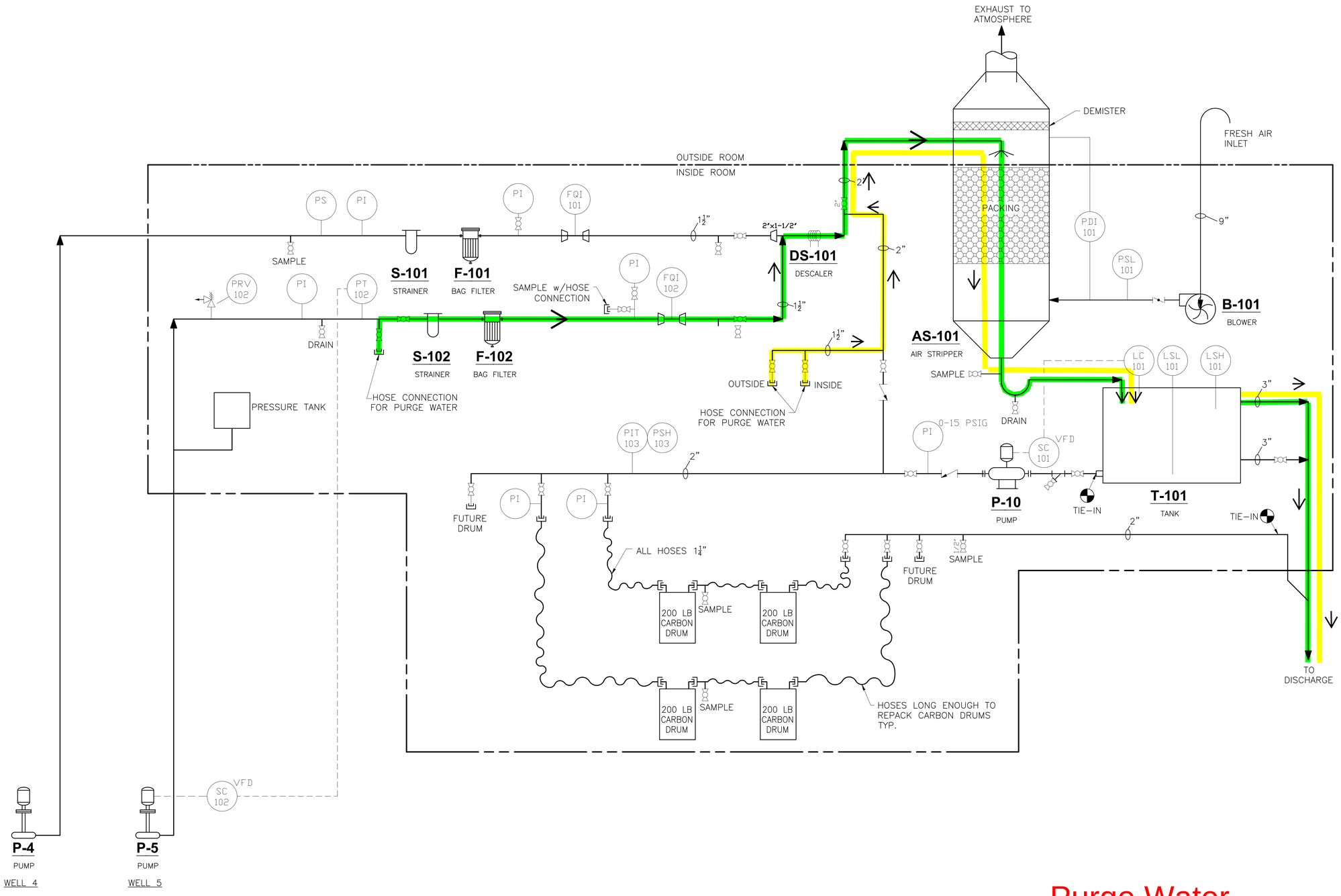
DRAWING TITLE
PIPING & INSTRUMENTATION DIAGRAM

LAST UPDATE	ENGINEER	IES CONTRACT No.
04-29-19	BM	EV190352.03
DATE	DESIGNER	CADD FILE No.
03-14-19	DM	19035203P101
SCALE	DRAWN	XREF FILE(S)
-	DM	-

RECORDS CONTROL

DRAWING NUMBER
P101

SHEET 1 OF 1
REVISION LEVEL 0



Purge Water Connection

AS-101 AIR STRIPPER	P-4 WELL PUMP	P-5 WELL PUMP	P-10 CARBON DRUM PUMP	T-101 BUFFER TANK	S-101/102 STRAINER	F-101/102 BAG FILTER	B-101 BLOWER	DS-101 DESCALER
24" DIAMETER 15' HIGH PACKING-1" JAEGER TRI-PACK MESH DEMISTER UP TO 30 GPM	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: CAPACITY: XXX GPM @ XX' TDH WETTED MAT'L: 316 SS CASING & IMPELLER MOTOR: XX HP, XXX RPM, XXXV, XPH MFG: XXXXX	TYPE: HORIZONTAL CAPACITY: 30 GPM @ 21' TDH SUCTION & DISCHARGE: 1" WETTED MAT'L: POLYPROPYLENE MOTOR: 1/3 HP, 3450 RPM, 230V, 3PH MFG: FTI	SIZE: 4'-6"x3'-0"x3'-0" HT VOLUME: 270 GAL MAT'L: POLYETHYLENE			MFG: PEERLESS MOTOR: XX HP, XXX RPM, XXXV, XPH	MFG: SCALEBLASTER MODEL: SB-250 POWER: 110V

AS BUILT

IES ENGINEERS
ENGINEERING FOR INDUSTRY
1720 WALTON ROAD
PHONE: (610) 828-3078
BLUE BELL, PA 19422
FAX: (610) 828-7842

REV.	DATE	DESCRIPTION	BY	APP
A	03-20-19	CLIENT REVIEW		
0	04-29-19	RECORD DRAWING		

NOTE:
THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH ANY WORK. WHERE DISCREPANCIES OCCUR BETWEEN THESE DOCUMENTS AND EXISTING CONDITIONS, THE DISCREPANCY SHALL BE REPORTED TO THE OWNER AND/OR ENGINEER FOR EXPEDITING AND RESOLUTION.

CLIENT
ABB
FORMERLY THOMAS AND BETTS
PERKASIE PLANT

PROJECT TITLE
AIR STRIPPER SYSTEM MODIFICATION
MARCH 2019

DRAWING TITLE
PIPING & INSTRUMENTATION DIAGRAM

LAST UPDATE	ENGINEER	RECORDS CONTROL	IES CONTRACT No.
04-29-19	BM		EV190352.03
DATE	DESIGNER		CADD FILE No.
03-14-19	DM		19035203P101
SCALE	DRAWN		XREF FILE(S)
-	DM		-

DRAWING NUMBER
P101

SHEET 1 OF 1
REVISION LEVEL 0

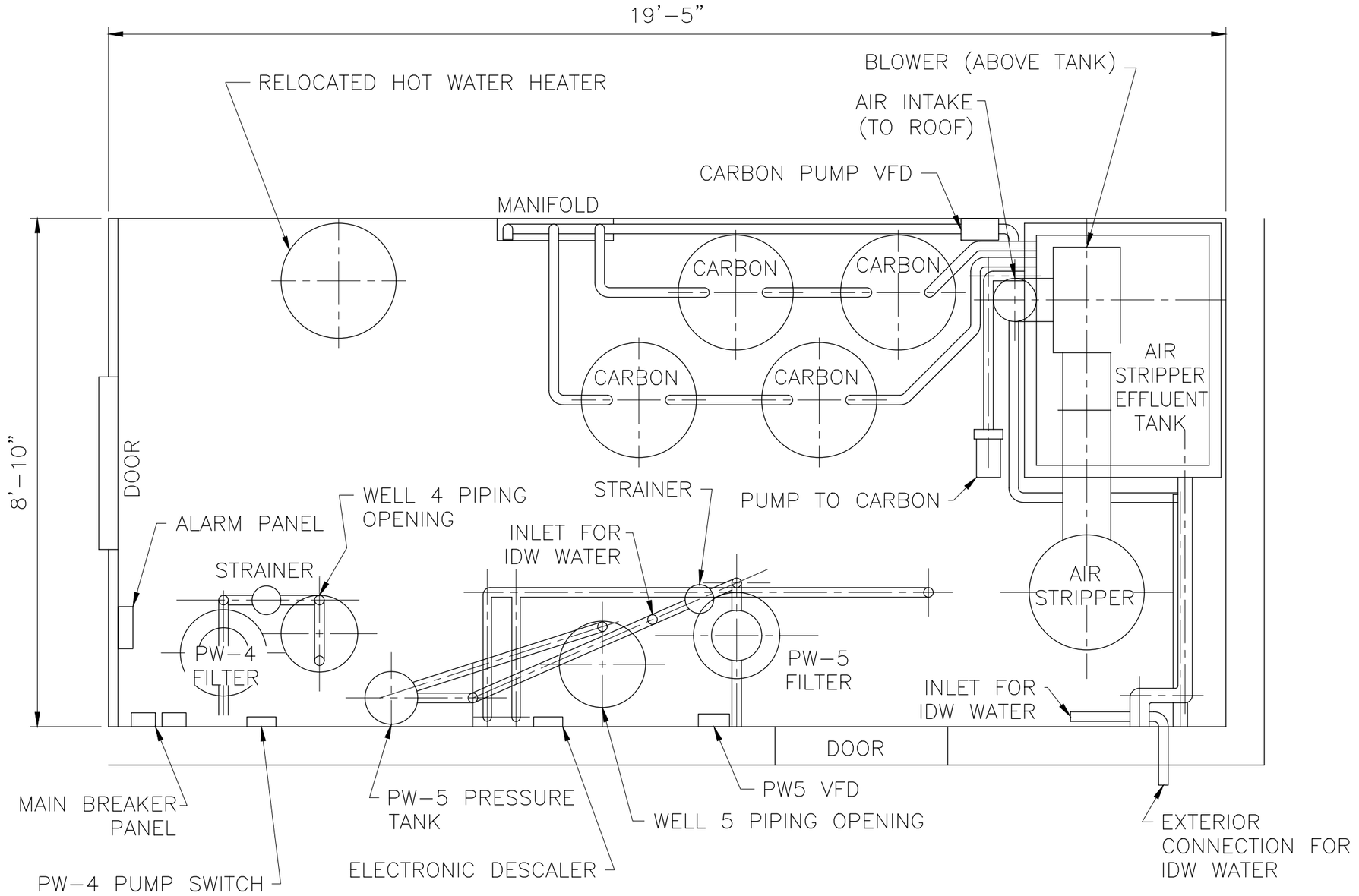
ENGINEERS
ENGINEERING FOR INDUSTRY
1720 WALTON ROAD, PA 19422
PHONE: (610) 828-3078
BLUE BELL, PA 19422
FAX: (610) 828-7842

FIGURE 1

ABB FORMALLY THOMAS AND BETTS
PERKASIE PLANT

SITE PLAN

Date:	Project:	Dwg. No.	Revision:
08-21-2020	EV200352.03	FIGURE 1	0



1/2" 0 1 2 3 4 5 6

AS BUILT

ENGINEERS
ENGINEERING FOR INDUSTRY
1720 WALTON ROAD, PA 19422
PHONE: (610) 828–3078
BLUE BELL, PA 19422
FAX: (610) 828–7842

FIGURE 2

ABB FORMALLY THOMAS AND BETTS
PERKASIE PLANT

AIR STRIPPER ROOM
LAYOUT

Date:	Project:	Dwg. No.	Revision:
10–30–19	EV190352.03	FIGURE 2	0

ATTACHMENT C

Tables

Table 1 – Equipment List and Specifications

EQUIPMENT SPECIFICATIONS

Fan Blower
Belt driven centrifugal with backward curved blades
Air Flow: 1,500 SCFM @ 3" SP
Motor: 1.5 HP TEFC, 230/3/60
Drive: adjustable V-Belt
Belts: Gate V-Belt Heavy Duty Machinery

Air Stripping Tower
Tower Efficiency >99%, average water temperature 55F, design water flow 30 GPM, design air flow rate 1,500 CFM. Tower construction is ¼" thick steel, 24" diameter x 26'-0" high.
Packing: 56.5 cubic feet of #2 Jaeger "Tri Packs" 1" diameter polypropylene column packing.
Air inlet: 12" diameter
Air outlet: 12" diameter
Water inlet and outlet connection: 2" copper threaded connection
Outlet: 4-inch PVC flanged
Packing support grid: Steel
Mist eliminator: Screen at the top of the Tower
Packing Inspection ports: one, 0.75" diameter on access hatch

Hayward Bag Filter MW-4 – Filter Vessel
System Flow Rate: 15 GPM
Water Temperature: 45-60F with Variability
Water Pressure: 50-100 PSI
Size: 12" diameter x 24" high
Media: 5-micron bag filter
Connections: three, 1.5" threaded inlet outlet and vent
Equipped with strainer prior to filter unit

Hayward Bag Filter MW-6 – Filter Vessel
System Flow Rate: 15 GPM
Water Temperature: 45-60F with Variability
Water Pressure: 50-100 PSI
Size: 12" diameter x 24" high
Media: 25-micron bag filter
Connections: three, 1.5" threaded inlet outlet and vent
Equipped with strainer prior to filter unit

Stripper Effluent Tank
300 Gallon capacity, 4.5' x 3' x 3' high constructed of ¼" thick HDPE.

Well Pumps
Well #4 - Drilled date uncertain, 6" steel casing. Pump is rated for 20 GPM.
Well #6s - Drilled date uncertain, 6" steel casing Pump placed at estimated at 110' depth. Pumping capacity 20 GPM. VFD flow regulated. (This replaced Well #5)

Previous Pumping Well: *Well #5 - Drilled date uncertain, 6" steel casing estimated at 100' depth. Pumping capacity 20 GPM. VFD flow regulated.*

Carbon Treatment System
4 Carbtrol L-1 200-pound carbon units divided into 2 parallel trains of 2 units in series.
Each train is rated for 10 GPM, Total capacity 20 GPM.
Piping is provided to add a third train if needed

Variable Frequency Drive controls variable speed pump that transfers water from the stripper effluent tank to the carbon units. Float controls in the tank control the VFD operation. System has pressure sensor to prevent over pressurization of the carbon units which are rated for 15 psi.

Electronic Descaling System
ScaleBlaster SB-250 electronic descaling unit is installed on the combined influent line to the air stripper. The unit was manufactured by Clear Water Enviro Technologies, Inc.

ATTACHMENT D

ABB Installation Products Field Sheet

GROUNDWATER TREATMENT SYSTEM

Preventive Maintenance List

ABB INSTALLATION PRODUCTS - FORMER THOMAS & BETTS FACILITY

1501 West Park Avenue
Perkasie PA 18960

Date: _____ Time: _____

PM Performed By: _____

Initials:

1) Check the Fire Extinguisher and record last inspection date

If needed have the Tilley Fire Equipment CO. renew _____

2) Inspect system for water leaks

Observe area around the entire system and report any leaks _____

3) Check Magnehelic line and gauge.

If required, remove water from the line that connects to the tower _____

4) Call TYCO- ADT and put the system on test hold for an hour. _____

Perform the following maintenance tasks: **Y/N**

a) Check the pressure interlock on the fan. Turn off the fan breaker.

b) As the fan stops, observe the water meters and listen for W-4, and W-6s to electrically de-energize

c) Change filter bag and clean strainer on W-4 monthly _____

d) Change filter bag and clean strainer on W-6s weekly-monthly _____

e) Grease the fan shaft bearing pillar blocks monthly _____

f) Check condition of the belts on the fan assembly. Modify as needed. Record if the belt was changed and on what date. _____

g) Restart system and view water meters to confirm that the system has resumed. _____

h) Run the Carbon system for several minutes to confirm operation. _____

5) Has the semiannual inspection of the packing media with the endoscope been performed? _____

Record Date of inspection: _____

6) ABB O&M Manual located on site and is easily accessible _____

Review the O&M manual as needed.

7) Comments:

_____

_____

_____

TOTAL FLOW METER READINGS
ABB INSTALLATION PRODUCTS
FORMER THOMAS & BETTS FACILITY
PERKASIE, PENNSYLVANIA

Month _____ **Year** _____

Last:					
Day	**Time**	**Pump No. 4**	**Pump No. 6s**	**Initials**	**Comments, Including Pump Restarts, Filter Changes**
1		0	0		
2		0	0		
3		0	0		
4		0	0		
5		0	0		
6		0	0		
7		0	0		
8		0	0		
9		0	0		
10		0	0		
11		0	0		
12		0	0		
13		0	0		
14		0	0		
15		0	0		
16		0	0		
17		0	0		
18		0	0		
19		0	0		
20		0	0		
21		0	0		
22		0	0		
23		0	0		
24		0	0		
25		0	0		
26		0	0		
27		0	0		
28		0	0		
29		0	0		
30		0	0		
31		0	0		
1		0	0		

Note – If there is a problem with the pumps, immediately call Michael Haezebrouck, or Richard Sacks at IES Engineers at (610) 828-3078. Mobile Numbers: MH - (724)516-6561 or RS - (610) 316-7878. After completing the monthly form, please record the last months most current meter reading at the top of the page and return this physical copy to the office in Blue Bell PA.

WEEKLY FIELD READINGS

ABB INSTALLATION PRODUCTS

FORMER THOMAS & BETTS FACILITY

PERKASIE, PENNSYLVANIA

Date:		Name:				
	BEFORE FILTER CHANGE		AFTER FILTER CHANGE			
PW-4	FLOW (gpm)	PSI	FLOW (gpm)	PSI	MAGNEHELIC	RPM
PW-6s	FLOW (gpm)	PSI	FLOW (gpm)	PSI	CARBON SYSTEM	
					ON/OFF	PSI *

Date:		Name:				
	BEFORE FILTER CHANGE		AFTER FILTER CHANGE			
PW-4	FLOW (gpm)	PSI	FLOW (gpm)	PSI	MAGNEHELIC	RPM
PW-6s	FLOW (gpm)	PSI	FLOW (gpm)	PSI	CARBON SYSTEM	
					ON/OFF	PSI *

Date:		Name:				
	BEFORE FILTER CHANGE		AFTER FILTER CHANGE			
PW-4	FLOW (gpm)	PSI	FLOW (gpm)	PSI	MAGNEHELIC	RPM
PW-6s	FLOW (gpm)	PSI	FLOW (gpm)	PSI	CARBON SYSTEM	
					ON/OFF	PSI *

Date:		Name:				
	BEFORE FILTER CHANGE		AFTER FILTER CHANGE			
PW-4	FLOW (gpm)	PSI	FLOW (gpm)	PSI	MAGNEHELIC	RPM
PW-6s	FLOW (gpm)	PSI	FLOW (gpm)	PSI	CARBON SYSTEM	
					ON/OFF	PSI *

Date:		Name:				
	BEFORE FILTER CHANGE		AFTER FILTER CHANGE			
PW-4	FLOW (gpm)	PSI	FLOW (gpm)	PSI	MAGNEHELIC	RPM
PW-6s	FLOW (gpm)	PSI	FLOW (gpm)	PSI	CARBON SYSTEM	
					ON/OFF	PSI *

* At maximum pump flow

COMMENTS

Appendix C

Concrete Building Slab Inspection Log

LANGAN

SITE INSPECTION LOG

Project: _____

Site Location: _____

Inspection Date & Time: _____

Inspection Personnel & Title: _____

Weather: _____

Concrete Building Slab	**Visually Checked** *Y/N*	**Condition** *Good/Fair/Poor*	**Maintenance Required or Comments**	**Photos (#)**
Overall condition of slab				
Cracks, pitting, spalling, corrosion				
Expansion joints				
Slab penetrations (new)				
Building Modifications, Renovations, New Construction				
Note any other observations or repairs that may be needed here:				

Enclosures:

- Inspection Photo Log