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SITE MANAGEMENT PLAN, REVISION NO. 6

FORMER AXIOHM FACILITY
TOMPKINS COUNTY
950 DANBY ROAD, ITHACA, NEW YORK 14850
SITE NO.: C755012

Prepared For:
South Hill Business Campus, LLC.
950 Danby Road
Ithaca, New York 14850

Prepared By:
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Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date
1	April 2012	Revised to reflect modifications completed to the SSDS and PPAES in January 2012.	April 2012
2	November 2015	Revised to reflect changes to the PRM program and SVI mitigation systems made between 2012 and 2015.	November 2015
3	February 2017	Revised to reflect modifications to the groundwater monitoring plan to include MNA parameters.	October 2017
4	April & August 2018	Revised to reflect modifications to the field parameters collected and laboratory analysis completed as part of the groundwater monitoring plan.	April 2019
5	Sept. 2021	Revised to reflect modifications to the groundwater monitoring plan and SSDS. Eliminated laboratory analysis of alkalinity, chloride, iron, nitrate & sulfate. Added SVE to MW16-7BR & T-11.	December 2021
6	August 2023	Revised per the NYSDEC's Conditional Approved Letter, dated May 3, 2023 and the March 2023 PRR.	

August 2023

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ES EXECUTIVE SUMMARY & CERTIFICATION

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan (SMP):

Site Identification:	**BCP Site No. C755012, Former Axiohm Facility, 950 Danby Road, Ithaca, Tompkins County, New York**
Institutional Controls (ICs):	1. The Site may be used for commercial use.
	2. ICs defined in the Environmental Easement include the following: • The Grantor and its successors and assigns must comply with the Environmental Easement and the SMP; • The Grantor and its successors and assigns must maintain in operation an active SSDS in the existing Site building in accordance with the SMP; • Future structure(s) on the Controlled Property must include an active system to mitigate the potential for SVI in accordance with the SMP. Alternatively, the Grantor or its successors and assigns must conduct a SVI investigation pursuant to a work plan approved by the NYSDEC and NYSDOH to demonstrate that such ECs are not necessary in new structures; • The groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the NYSDEC and NYSDOH; • The Grantor and its successors and assigns must conduct groundwater monitoring in accordance with the SMP; • The Grantor and its successors and assigns must comply with the Soil Management Plan that summarizes the standards for management of subsurface soils/fill during any future intrusive work. The Soil Management Plan is included as part of the SMP; • Data and information related to the Site management of the Controlled Property must be reported at the frequency and in the manner defined in the SMP.
	3. All ECs must be inspected at the frequency and in the manner defined in the SMP.

Site Identification:	**BCP Site No. C755012, Former Axiohm Facility, 950 Danby Road, Ithaca, Tompkins County, New York**
Engineering Controls (ECs):	1. SSDS within the existing Site building.

Inspections:	**Frequency**
SSDS and SVE	Annually
Groundwater Monitoring:	**Frequency**
1. Groundwater Monitoring Wells: MW-2, MW06-23BR, MW06-24BR, MW06-25BR, MW06-25OB, MW16-7BR, IOW-1, IOW-3 and IOW-4.	Annually
Maintenance:	**Frequency**
1. SSDS and SVE	Annually
2. Groundwater Monitoring Wells	Annually
Reporting:	**Frequency**
1. Periodic Review Report	Every 5 years.

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

CERTIFICATION STATEMENT

I __Forrest C. Earl__ certify that I am currently a Qualified Environmental Professional as defined in 6 NYCRR Part 375 and that this Site Management Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10).

SIGNATURE

8-3-23

DATE

SECTION 1 - INTRODUCTION

The Former Axiohm Facility (Site) is located at 950 Danby Road (a.k.a. NYS Route 96B) in the Town of Ithaca, County of Tompkins and State of New York (Figure 1). The Site is currently owned by South Hill Business Campus, LLC. (SHBC) and Revision No. 5 to the SMP was prepared and submitted by GeoLogic NY, P.C. (GeoLogic) at the direction of SHBC, consistent with the Site's remedial program as approved by the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH).

The original SMP was included as Attachment 1 of the Final Engineering Report (FER), dated November 2008 and authored by S&W Redevelopment of North America, LLC (SWRNA). Revision No. 5 to the SMP reflects the modifications to the laboratory analysis completed as part of the groundwater monitoring plan and modifications to the SSDS. These modifications were made with the concurrence of the NYSDEC and NYSDOH. A table summarizing all revisions to the final approved SMP is located on the title page.

Text added by GeoLogic has been italicized for ease of reference. Non-revised portions of the SMP appear below as they were originally presented in the final approved SMP, dated November 2008 and authored by SWRNA.

1.1 Project Background

Remedial action has been completed under the New York State Brownfield Cleanup Program (BCP) at the *Site*. The Site is *approximately* 42 acres *and currently consists of two Tax Parcels (39-1-1.1 and 39-1-1.22)* (Figure 2). *The boundaries of the Site are more fully described in Schedule A, Property Description, of the Environmental Easement provided in Appendix E.*

The Site is presently occupied by a split level two-story and four-story office and manufacturing building consisting of approximately, 280,000 square feet. SHBC will continue to develop portions of the existing office building into multi-tenant professional office complex. The remaining portion of the existing structure (former manufacturing space) will be developed for use by light manufacturing, and some non-manufacturing business startups. *Undeveloped portions* of the property may be developed in the future with compatible commercial uses.

The property surrounding the Site is primarily vacant land west of Danby Road. The Ithaca College campus occupies over 100-acres east of Danby Road. Because of Ithaca College, the land use in this general area is commercial/institutional, with some residential uses primarily south of the Site.

The Site was vacant land and/or used for agricultural purposes until 1953. The National Cash Register Company (NCR) purchased the property from Ithaca College in 1953. NCR manufactured adding machines and cash registers and had an active Printer Business Unit on-site. According to interviews conducted as part of a 1994 Phase I Environmental Site Assessment, the following manufacturing activities took place from 1953 to 1978: metal painting using oil-based paints, and heat treatment using cyanide; plating operations using nickel, zinc and cadmium, as well as machining using cutting oils, lubricating oils, and solvents. Additional activities related to manufacturing operations included silver soldering, vapor cleaning of vats using tetrachloride, plastic molding, and tumble barrels using sulfuric acid.

During NCR's operation, records indicate that nine underground storage tanks (USTs) were on-site for over 30-years. All nine tanks were removed in 1986, and one spill was reported during removal. Remedial action was taken in response to the spill, and the NYSDEC spill file was closed at some point following remediation.

From 1992-1994, AT&T Global Information Solutions occupied the Site. During that period, AT&T manufactured and assembled impact and thermal printers. In addition to these processes, other processes included assembling printed circuit boards, wave soldering, washing and repairing printers, painting, small scale machining and injection molding.

Axiohm IPB, Inc. (which changed its name to TPG IPB, Inc.) acquired the Site in 1994 and used it as a corporate headquarters as well as for the engineering, marketing, light manufacturing and servicing of transaction printers. Manufacturing activities at the Site, which were terminated in December 2002, were limited to the final assembly of transaction printers using subassemblies that were procured from other manufacturers. In the final assembly process, all subassemblies were either fitted or glued and/or screwed together. Prior to its closure in July 2003, Axiohm's printer service center on the property performed similar assembly and distributed spare parts.

SHBC (Volunteer) submitted a BCP application to the NYSDEC on February 1, 2005. A Brownfield Cleanup Agreement (BCA) was executed on October 25, 2005, which required that the Volunteer determine the nature and extent of on-site contamination from historic Site operations, and subsequently remediate the Site to support future commercial use.

Remedial activities were completed by the Volunteer at the Site in 2008 in accordance with the BCA. The original SMP, dated 2008, was prepared by SWRNA on behalf of the BCP Volunteer, to guide the current Site owner and future owners to implement and maintain the required engineering and institutional controls associated with the NYSDEC-approved remedial action. *The Certificate of Completion was issued by the NYSDEC on December 31, 2008.*

In June 2011, additional remedial measures were required by the NYSDEC. In September 2011, GeoLogic prepared and submitted design documents for additional In-Situ Chemical Oxidation (ISCO) and for the modification of the Sub-Slab Depressurization System *(SSDS) and the* Positive Pressure Air Exchange System *(PPAES). The NYSDEC and NYSDOH reviewed, commented on and subsequently approved the design documents. Additional ISCO injection commenced in May 2012 and was completed in August 2012.*

In January 2012, the SSDS was expanded to the north, to the portion of the ground floor located between Column Line 7 and 8 and Column Line 16 (See Figure 4). The use of the PPAES within this area was discontinued after expanding the SSDS. The 2012 modifications were completed in accordance with the NYSDEC-approved Design Document for Modification of SSDS and PPAES (GeoLogic, September 30, 2011) and the NYSDEC's comment letter, dated December 5, 2011. Revision No. 1 to the SMP, dated April 2012, reflected these modifications to the SSDS and PPAES.

In April 2013, GeoLogic prepared a work plan for Soil Vapor Intrusion (SVI) sampling in the northern portion of the building (north of the wall between Column Line 7 and 8). The NYSDEC and NYSDOH reviewed, commented on and subsequently approved the work plan. The SVI sampling was completed in May 2013. Based upon results of the SVI sampling, GeoLogic concluded that mitigation of the northern portion of the building was not warranted and requested that the PPAES remain shutdown indefinitely.

In March 2014, two bedrock wells (MW07-27BR and MW08-29BR) were removed from the PRM groundwater sampling program. This modification was made, with the concurrence of NYSDEC and NYSDOH, based upon the historic lack of detecting Contaminants of Concern (COCs) or detecting low concentrations of COCs in the groundwater samples collected from these wells.

In April 2015, the air sampling portion of the PRM program was discontinued. This modification was made, with the concurrence of NYSDEC and NYSDOH, based upon an evaluation of the results from 108 post-mitigation air samples. The SSDS will continue to be monitored and maintained in accordance with the O&M Plan detailed in Section 5 of this SMP.

In October 2015, GeoLogic submitted an updated Conceptual Site Model (CSM) for the Site to the NYSDEC. The CSM was approved by the NYSDEC and NYSDOH in November 2015.

In November 2015, GeoLogic submitted Revision No. 2 to the SMP. The revision reflected the modifications to the PRM program and SVI mitigation systems made between April 2012 and November 2015. SMP, Revision No. 2 was approved by the NYSDEC and NYSDOH in November 2015.

In September 2016, GeoLogic submitted a Remedial System Optimization (RSO) Report for the Site. The RSO report summarized the remedial program to date, summarized the RAOs and evaluated the feasibility of additional remedial technologies to address the COCs remaining in groundwater at the Site. The RSO report recommended that MNA parameters be included in the Site's groundwater monitoring plan. The RSO report was conditionally approved by the NYSDEC and NYSDOH in October 2016.

In December 2016, overburden monitoring well MW-7 was abandoned and a new bedrock monitoring well, MW16-7BR was installed. This work was required by the NYSDEC in their letter dated October 26, 2016 to satisfy the conditional approval of GeoLogic's RSO Report. Groundwater samples were collected from MW16-7BR on a quarterly basis, for three quarters, and then included in the 2017 annual sampling. Quarterly sampling reports were submitted to the NYSDEC and NYSDOH after each sampling event.

In February 2017, SMP Revision No. 3 was submitted to reflect the modification of the groundwater monitoring to include MNA parameters. In July 2017, the NYSDEC required modifications to the MNA parameters. In September 2017, the field parameters were expanded to include Dissolved Oxygen (DO), Oxidation Reduction Potential (ORP), pH and temperature. Laboratory analysis was expanded to include Nitrate, Iron, Sulfate, Alkalinity and Chloride. In October 2017, SMP, Revision No. 3 was conditionally approved by the NYSDEC and NYSDOH and additional revisions were required.

In April 2018, SMP Revision No. 4 was submitted to the DEC reflecting the additional field parameters and laboratory analysis completed during groundwater sampling events. In May 2018, additional modifications to the SMP were required by the NYSDEC. The SMP was revised again and submitted to the NYSDEC in August 2018.

In July 2021, Soil Vapor Extraction (SVE) was added to bedrock monitoring well MW16-7BR and to injection trench T-11. Piping was installed which connected MW16-7BR and T-11 to the trunk line of the existing SSDS. These modifications are depicted on Figure No. 4 of the SMP.

In September 2021, SMP Revision No. 5 was submitted to the DEC to reflect modification of the SSDS and modification of the groundwater monitoring plan. These modifications were made with the concurrence of the NYSDEC and NYSDOH. Laboratory analysis of alkalinity, chloride, iron, nitrate and sulfate were eliminated. The current Groundwater Monitoring Plan is described in Section 4, of this SMP.

In August 2023, SMP Revision No. 6 was submitted to the DEC to reflect modification of the SSDS and PRR frequency. The modification to the SSDS was required by the NYSDEC in their letter dated May 3, 2023, to satisfy the conditional approval of PRR, dated March 14, 2023. The PRR frequency was reduced from annually to once every five years. An alarm system was added to the SSDS and is described in Section 5.2.3 of this SMP.

1.2 Nature and Extent of Site Contamination

A Remedial Investigation (RI) was completed at the Site in 2006 and 2007, and a Remedial Investigation Report (SWRNA, January 2008) was approved by NYSDEC in January 2008. The RI Report addressed subsurface soil, groundwater, and soil vapor in proximity to and downgradient of known and/or suspected contamination sources at the Site. These areas specifically included the former heat treating, plating, and USTs areas associated with former manufacturing operations that occurred in the southernmost portion of the existing building. An area of fill southwest of the building was also investigated for the presence of fill material that might potentially be a source of contamination.

The RI indicated former manufacturing activities in the southern portion of the former manufacturing building resulted in groundwater and soil vapor contamination with respect to chlorinated organic solvents. Two 9,000-gallon USTs, that formerly contained used solvents, are located at the southwest corner of the building and were viewed as a potential source.

Groundwater and soil vapor contamination extends in the direction of groundwater flow from the southwest corner of the building towards the west/northwest, into the lower parking lot area. The RI found no evidence of contamination sources associated with the fill area southwest of the building.

The categories of contaminants that exceeded standards, criteria, or guidance (SCGs) included volatile organic compounds (VOCs). Note: one semi-volatile organic compound (SVOC) was detected in one soil sample, see Section 1.2.1 for details.

1.2.1 Soil

Seventeen soil samples were collected during the RI from test pits in the former fill area (5 samples), surface soil (5 samples), and soil borings (7 samples). Laboratory analysis results for soil indicate the following:

- No VOCs were detected above Part 375 Commercial Soil Cleanup Objectives (SCOs) in any of the soil samples analyzed.
- Only one SVOC was detected above Commercial SCOs, in one of the 17 soil samples that were analyzed. Benzo(a)pyrene was observed at a concentration of 1,900 µg/Kg in the sample collected from SB06-01: 2 feet to 8 feet bgs. This compound may have indicated the presence of asphalt pavement in the sample;
- No polychlorinated biphenyls (PCBs) were detected above Part 375 Commercial SCOs in any of the soil samples analyzed.
- No target analyte metals were present above Part 375 Commercial SCOs.
- No cyanide was detected above Commercial SCOs.
- Toxicity characteristic leachate procedure (TCLP) analysis of soil samples collected from test pits in the fill area indicates all parameters were below TCLP toxicity limits.

1.2.2 Groundwater

During the RI, groundwater samples were collected from twenty overburden monitoring wells screened across the water table, nine upper bedrock monitoring wells screened within the upper 10 feet of bedrock, and four deeper bedrock monitoring wells installed at various depths between 34 feet and 110 feet into bedrock.

TCE and its degradation product cis-1,2-dichloroethene (DCE) were the VOCs detected most frequently above Class GA groundwater standards in the overburden and bedrock groundwater samples. Aside from these two compounds, only a minor degree of groundwater impact was evident.

The metals detected in overburden and bedrock groundwater samples most frequently above standards included sodium (in 27 of 28 groundwater samples), iron (21 of 28 samples), and manganese (21 of 28 samples). These metals appear to be naturally occurring due to their widespread presence.

Cyanide was not detected above groundwater quality standards in any of the groundwater samples.

The highest concentrations of the principal groundwater contaminants, including TCE and DCE, were detected in samples collected from overburden and bedrock groundwater monitoring wells located near the former plating/heat treating and UST areas.

Groundwater analytical data indicates that natural attenuation has reduced contaminant levels between 2004 and 2006. Evidence includes the general decline of contaminant concentrations, along with a shift in the relative proportion of TCE to DCE.

1.2.3 Soil Vapor

RI data indicate soil vapor contamination exist primarily downgradient (west) of the former plating and UST areas. Compounds detected in soil vapor samples included TCE and DCE, which were also identified as principal groundwater contaminants. *Tetrachloroethene (PCE)* was also detected in soil vapor samples, but it was not detected in RI soil or groundwater samples, nor is there any evidence or record of its former or current use at the facility.

There is a strong spatial correlation between the concentrations of TCE and DCE in soil vapor samples and their concentrations in groundwater samples. This suggests soil vapor contamination is derived primarily from groundwater contamination directly underlying it.

Vapor migration potential is very limited outside the paved parking lot area by physical site features. Rock outcrops overlain by a thin veneer of overburden form steep ledges, which minimize soil vapor migration potential. As overburden thins out and bedrock outcrops are exposed, soil vapor, if any is present, escapes into the atmosphere. Soil vapor transport stops where overburden pinches out at bedrock ledge outcrops. In addition, saturated soil and ponded water between the parking lot and the west Site boundary prevent soil vapor migration because there is no unoccupied pore space for vapors to accumulate and migrate.

1.2.4 Interim Remedial Measure (IRM)

An IRM was implemented to mitigate SVI in accordance with the NYSDEC-approved IRM Work Plan (SWRNA, January 2007) and related amendments (February 13, 2007). The steps taken to mitigate SVI include two elements:

- **Sub-Slab Depressurization.** A SSDS was installed in 2007 in the southern portion of the building's lowest level, per the IRM Work Plan. The SSDS design was based on communication testing that indicated adequate negative pressure to prevent SVI could be produced by a vacuum applied to the sub-slab matrix in the southern building area. The SSDS has been operating since September 2007, and post-installation pressure field extension tests indicate it exceeds design expectations, creating a vacuum field of -0.002 inches of water column (in WC) or less that extends significantly farther north than had been anticipated.

  The SSDS was expanded in 2008 into several adjoining rooms that jut out from the main southern area, along the western side of the building.

- **Positive Pressurization**. North of the SSDS, a *PPAES* was installed as opposed to an SSDS. Both systems create positive indoor air pressure above the slab relative to below the slab, thereby decreasing the potential

for soil vapor intrusion. The building's HVAC system will provide an air exchange that can be adjusted to continuously maintain positive pressure (greater than 0.01 in WC) in the northern portion of the building.

Please refer to Section 1.1 of this SMP for a summary of modifications made to the SVI mitigation systems after 2008.

1.2.5 Summary of Human Exposure Pathways

Under existing Site conditions, the RI indicates very little risk of exposure to Site-related contamination. Except for one soil sample collected from 2 to 8 feet *below ground surface (bgs)*, there were no COCs identified for soil, so there is no potentially complete exposure pathway related to direct contact with soil. There is no complete exposure pathway under current conditions with respect to contaminated groundwater because groundwater is not used as a resource. Future soil vapor intrusion and potential exposure may occur as a result of building renovation and construction that may change air pressure gradients near the building's foundation.

Future exposure to groundwater could only occur if a production well is installed on-site in the future. However, this is not reasonably anticipated to happen since the Site is serviced by a municipal supply.

Future exposure of Site construction and utility workers to subsurface soil that may contain residual contamination could potentially occur during Site excavation.

1.3 Remedial Action Objectives (RAOs)

No Record of Decision or Decision Document was prepared by the NYSDEC for the Site. The Remedial Action Objectives (RAOs) that have been developed for the Site are based on considerations specific to the Site (e.g. site use, detected constituents and potential exposure pathways). RAOs are identified to maintain and/or achieve conditions that are protective of public health and the environment. The RAOs that have been developed for the Site are consistent with the remedy selection process described in Technical Guidance for Site Investigation and Remediation, NYSDEC Program Policy DER-10 (DER-10, May 2010).

Based on the evaluation of the current environmental data and taking into consideration current and potential land use, and identification of the actual or potential public health and/or environmental exposure, the RAOs, for the Site are:

1.3.1 Groundwater

RAOs for Public Health Protection:

- *Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.*

RAOs for Environmental Protection:

- *Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable;*
- *Remove the source of groundwater contamination.*

1.3.2 Soil

RAOs for Public Health Protection:

- *Prevent ingestion/direct contact with contaminated soil.*

RAOs for Environmental Protection:

- *Prevent migration of contaminants that would result in groundwater or surface water contamination.*

1.3.3 Soil Vapor

RAOs for Public Health Protection:

- *Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a Site.*

SECTION 2 - SITE MANAGEMENT PLAN APPROACH

Activities described in this SMP relate to the following elements of the selected remedy for the Site:

2.1 Institutional Controls and Engineering Controls

Section 3 of this SMP describes the specific Institutional Controls (ICs) and Engineering Controls (ECs) that apply to this Site.

ICs are implemented for this Site to restrict future use to commercial purposes and prohibit the use of Site groundwater without proper treatment, and/or prior approval of NYSDEC and the NYSDOH.

ECs are implemented at the Site to eliminate the potential exposure pathway related to SVI. The owner must address the possibility for SVI to occur in the future at any new buildings constructed on the Site. Any new buildings constructed on the Site must be designed with ECs to preclude SVI, unless a soil vapor investigation was conducted, which indicated SVI mitigation is not necessary and with written approval of the NYSDEC and NYSDOH.

Section 3 also includes a Soil Management Plan that summarizes the standards for management of subsurface soils/fill during any future intrusive work.

2.2 Groundwater Monitoring

Section 4 of the SMP details the groundwater monitoring plan which, includes Monitored Natural Attenuation (MNA) parameters and will be used to monitor and evaluate the COCs remaining in groundwater at the Site. Details regarding the sample locations, sampling frequency, sampling procedures and analytical methods are described in Section 4 and Appendix A of this SMP.

Site groundwater was treated to reduce contaminant levels and mitigate off-site migration of on-site groundwater contamination. ISCO was used to remediate groundwater contaminants, including TCE, DCE, and vinyl chloride (VC). The *2008* treatment involved the injection of potassium permanganate into a series of injection trenches. The injection array, the amount of potassium permanganate injected, and the number of injections were determined based on field and laboratory pilot tests, and presented in a Remedial Design Document (SWRNA, June 2008) that was reviewed and accepted by NYSDEC prior to implementation.

In September 2011, GeoLogic prepared and submitted design documents for additional ISCO. The NYSDEC and NYSDOH reviewed, commented on and subsequently approved the design document. Additional ISCO injection commenced in May 2012 and was completed in August 2012.

The two ISCO injection events completed reduced the concentrations of COCs in the Site's groundwater. In addition, data collected to date suggests that COCs remaining in groundwater at the Site are naturally attenuated by a combination of biodegradation, volatilization, dispersion/dilution and to a lesser extent sorption.

2.3 Operations & Maintenance (O&M) Plan

Section 5 of this SMP is an O&M Plan concerning the future operation of the SSDS and communication and reporting requirements to NYSDEC and NYSDOH.

The property owner will provide certification once every five years of institutional and engineering controls for the Site, prepared by a professional engineer or such other qualified environmental professional acceptable to NYSDEC, and until NYSDEC notifies the property owner in writing that this certification can be completed at a lesser frequency or is no longer needed.

SECTION 3 - INSTITUTIONAL AND ENGINEERING CONTROL PLAN

ICs and ECs have been implemented at the Site. ICs are included in the Environmental Easement between the property owner and NYSDEC and are discussed in this section.

ECs for this Site mitigate the potential exposure pathway related to SVI. Currently, a SSDS is operating at the Site. This system is designed to mitigate the potential for SVI to occur by creating a positive indoor air pressure above the floor slab relative to below the floor slab conditions. The O&M requirements for this system are discussed in Section 5, whereas this section is concerned primarily with ICs.

3.1 Site Use Restrictions

The Site is currently zoned commercial. The environmental easement shall prohibit the Site from being used for purposes other than commercial use without the expressed written waiver of such prohibition by the NYSDEC, or if at such time the NYSDEC no longer exists, any New York State Department, Bureau, or other entity replacing the NYSDEC.

3.2 Groundwater Use Prohibition

The environmental easement shall prohibit the use of the groundwater underlying the Site without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless user first obtains permission to do so from the NYSDEC, or if at such time the NYSDEC no longer exists, any New York State Department, Bureau, or other entity replacing the Department.

3.3 Soil Vapor Investigation/Mitigation

ECs for this Site mitigate the potential exposure pathway related to SVI. The existing Site building utilizes a SSDS to mitigate potential SVI. This system is intended to operate continuously and will be maintained in accordance with an O&M Plan, which is included as Section 5 of this SMP.

In addition to maintaining the existing SVI mitigation systems in accordance with the O&M Plan, the environmental easement requires that either a soil vapor investigation be conducted, or soil vapor mitigation systems be installed, for any buildings constructed at the Site.

Prior to constructing any new buildings at the Site, the owner must either conduct a soil vapor investigation (per Section 3.3.1 of this SMP) to evaluate the potential for SVI, with provisions to mitigate impacts identified; or must submit designs to NYSDEC for engineering controls in the new buildings to mitigate the potential for SVI (per Section 3.3.2 of this SMP).

In the event that a building is proposed that is not intended for occupancy, the owner may request from NYSDEC and NYSDOH that soil vapor investigation and/or mitigation be deferred until occupancy of the building is expected. The building must remain unoccupied until investigation and/or mitigation acceptable to NYSDEC and NYSDOH is completed.

3.3.1 Soil Vapor Investigation

A Soil Vapor Investigation Work Plan must be provided to NYSDEC/NYSDOH by the owner for review and acceptance. The scope of work must include an acceptable number of indoor air, outdoor (ambient) air, and soil vapor samples, collected in accordance with NYSDOH *Guidance for* Evaluating Soil Vapor Intrusion in the State of New York (October 2006).

A Soil Vapor Investigation *Report* will be prepared by the owner following completion of the investigation to determine if further investigation, soil vapor intrusion mitigation, or no further action for future buildings is appropriate. The report must be provided to NYSDEC/NYSDOH for acceptance prior to conducting any further investigation or construction.

3.3.2 Soil Vapor Intrusion Mitigation

Any new buildings constructed at the Site must be designed with engineering controls to preclude SVI, unless a soil vapor investigation was conducted, which indicated SVI mitigation is not necessary, with written approval of the NYSDEC and NYSDOH. The owner may elect to implement engineering controls in new buildings without first conducting a soil vapor investigation, as a proven/presumptive remedy.

Engineering controls to mitigate SVI should be designed and implemented in accordance with the NYSDOH Guidance (October 2006), and may include:

- Sub-slab depressurization systems;
- Positive pressure air exchange systems;
- Vapor barriers (synthetic membranes, sealants);
- Ventilation systems.

NYSDOH guidance (October 2006) provides recommendations for selecting an appropriate mitigation approach based on building design. For undeveloped sites, NYSDOH guidance recommends new buildings with basements or slab-on-grade foundations be constructed with SSDS with sealing. For buildings with crawl spaces, sub-membrane depressurization (SMD) with a soil vapor retarder is the recommended approach.

Prior to installing an SVI mitigation system at the Site the owner will provide a Design Document to NYSDEC and NYSDOH for review and acceptance describing the control measures to mitigate SVI in each new building, and the means for testing the effectiveness of those measures.

Construction and post-construction testing requirements will follow NYSDOH guidance (October 2006). Following construction, a Site-Specific Management Plan (SSMP) will be prepared by the owner that describes the soil vapor mitigation system(s) and operation, monitoring, maintenance, and reporting requirements per NYSDOH guidance. The SSMP will be submitted by the owner to NYSDEC/NYSDOH for review and acceptance.

3.4 Soil Management Plan

The purpose of this section is to set forth communication procedures between the Site owner and any contractors engaged with earthwork at the Site and summarize the standards for management of subsurface soils/fill during any future intrusive work. All contractors will notify the owner prior to initiating intrusive earthwork.

3.4.1 Notifications

At least 15 days prior to the start of any activity that is anticipated to encounter remaining contamination, the Site owner or their representative will notify the NYSDEC. Figure 6 depicts the line of communication and site-related contact information.

Prior to any construction activities, workers are to be notified of the Site conditions with clear instructions regarding how the work is to proceed. All contractors will be notified by the owner that they must inform the owner prior to initiating any invasive earthwork.

Invasive work performed at the Site will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety.

3.4.2 Soil Excavation Activities

Visual, olfactory and instrument-based (i.e. PID) soil screening will be performed by a qualified environmental professional during all excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed when invasive work is performed during development, such as excavations for foundations or utility work, after issuance of the COC.

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal and material that requires testing to determine if the material can be reused on-site.

Soil excavated at the Site may be reused as backfill material on-site provided it contains no readily observable evidence of contamination (i.e. elevated PID readings, visual or olfactory).

Site soil that is excavated and is intended to be removed from the Site must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives. For excavated soil with evidence of potential contamination (i.e. elevated PID readings, visual or olfactory), one composite sample and a grab sample will be collected for each 100 cubic yards of stockpiled soil. (Note: If analytical results verify that no contaminants are present above NYS commercial SCOs per 6NYCRR Part 375-6.8(b), the soil may be used as backfill on-site). For excavated soil that does not exhibit visual evidence of contamination but must be sent off-site, one composite sample and one grab sample will be collected for every 2,000 cubic yards of stockpiled soil. *Specific requirements of the disposal facility shall also be adhered to.*

The composite sample will be collected from five (5) locations within each stockpile. Soil samples will be composited by placing equal portions of fill/soil from each of the five (5) sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil/fill will be thoroughly homogenized using a stainless-steel scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. The composite samples will be analyzed by a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for *the parameters required by the disposal facility* or for pH (EPA Method 9045C), reactivity, ignitability, Target Compound List (TCL) polycyclic aromatic hydrocarbons (PAHs), PCBs, and Target Analyte List (TAL) metals, and cyanide. The grab sample will be analyzed for TCL VOCs.

If analytical results indicate that concentrations exceed the standards for Resource Conservation and Recovery Act (RCRA) characteristics, the material will be considered a hazardous waste and must be properly disposed of off-site at a permitted facility within 90 days of excavations. If the analytical results indicate the soil is not a hazardous waste, the material will be properly disposed of off-site at an approved Part 360 permitted solid waste disposal facility, unless analytical results indicate, with NYSDEC concurrence, that the soil is suitable for off-site use as general fill, at a specific off-site location(s) acceptable to NYSDEC.

Impacted soil that is stockpiled on-site shall be placed on and covered with polyethylene sheeting to shed storm-water and control dust.

Any off-site fill material brought to the Site for filling and grading purposes shall be from a NYSDEC permitted and designated "virgin" borrow source. It shall be documented in writing to be native soil material from areas not having supported any known prior industrial or commercial uses. The soil will be acceptable for use as backfill provided no evidence of contamination (i.e., visual or olfactory indications) is observed.

3.4.3 Erosion and Runoff Control

Surface erosion and run-off controls shall be installed and maintained at the Site at all times during construction activities in accordance with state and local rules and regulations. This may include:

- Proper maintenance of the vegetative cover established on the Site;
- Properly covering excavated soils staged at the Site to prevent erosion, runoff and dust;
- Preventing runoff into storm sewers and during soil excavation and construction activities to prevent inflow of potentially contaminated water and/or sediment;
- Dust suppression methods such as application of water spray or other acceptable measures as may be required during construction and excavation.

3.4.4 Dewatering

If it is necessary to dewater future soil excavations for construction-related reasons, the groundwater will first be visually examined for contamination and screened for the presence of VOCs with a PID. Any groundwater showing evidence of contamination (i.e. free product or sheen, and PID headspace readings >10 ppm above background) that is removed from an excavation will be containerized. A sample will be taken and analyzed for VOCs by method 8260. If any compounds analyzed exceed groundwater standards the water will be either treated to meet NYS groundwater effluent limits (T.O.G.S. 1.1.1) and discharged on-site or removed for disposal at a permitted off-site disposal facility in accordance with a NYSDEC approved work plan. The containerized groundwater will undergo waste characterization analysis prior to off-site disposal as required by the disposal facility.

If dewatering is required in an excavation in which there is no evidence of groundwater contamination by visual examination (no evidence of free product or sheen) and PID (headspace readings <10 ppm above background), a groundwater sample will be analyzed for VOCs by method 8260. If analytical results indicate VOC concentrations are at or below NYS groundwater effluent limits (TOGS 1.1.1), the groundwater may be discharged on-site with NYSDEC approval.

3.4.5 Reporting

The Owner shall submit to the NYSDEC a certification (i.e. a PRR) once every five years or at another frequency as approved by the NYSDEC.

For any Site activities requiring excavation, import, or export of soil during the reporting period covered by that certification, the owner of the Site shall include in the PRR a description of work and a certification that all work was performed in conformance with this SMP.

Such report shall also contain certification that the institutional and engineering controls put in place, pursuant to the Environmental Easement, are still in place, have not been altered, and are still effective; and that the conditions at the Site are protective of public health and the environment.

SECTION 4 - GROUNDWATER *MONITORING* PLAN

This groundwater monitoring plan includes MNA parameters and will be used to monitor and evaluate the COCs remaining in groundwater at the Site.

4.1 Groundwater Sample Collection

Groundwater samples will be collected from nine monitoring wells (MWs) and injection observation wells (IOWs) on an annual basis. Figure 3 *depicts* the locations of MNA wells at the Site from which samples will be collected.

The table below summarizes the groundwater sampling parameters and schedule:

Sampling Location	***Analytical and Field Parameters (FPs)***			***Schedule***
	VOCs	*Ethene*	*FPs*	
MW-2 (OB), MW06-23BR, MW06-24BR, MW06-25BR, MW06-25OB, MW16-7BR, IOW-1 (BR), IOW-3 (BR) & IOW-4 (OB)	*X*	*X*	*X*	*Annual*

Notes:
BR = Bedrock
OB = Overburden
EPA = United States Environmental Protection Agency
SM = Standard Methods for the Examination of Water and Wastewater
Analytical *Methods or equivalent:*

- *VOCs: EPA 8260 for Target Compound List (TCL)*
- *Ethene: RSK 175 or AM20GAX*

FPs = Field Parameters: Dissolved Oxygen (DO), Oxidation Reduction Potential (ORP), pH, Temperature and Turbidity. FPs will be measured with a YSI 600XL multi-parameter sonde with flow-cell or similar equipment.

Groundwater sampling procedures are included as Appendix A of this SMP.

Reporting and effectiveness evaluation are discussed in Section 4.2 of this SMP.

Monitoring well maintenance, repair, replacement and decommissioning are discussed in Section 4.3 of this SMP.

4.2 Reporting & Effectiveness Evaluation

The groundwater sample results will be evaluated and reported as part of the PRR prepared for the Site. The PRR will be prepared based on NYSDEC's DER-10 and submitted once every five years or at another frequency approved by the NYSDEC.

The PRR will include:

- *Date of the groundwater monitoring event and/or reporting period;*

- *Name, company and title of the person(s) conducting monitoring activities;*
- *Narrative account of the sampling event, including field observations and type of samples collected;*
- *Depth to groundwater measurements;*
- *Site map showing the monitoring well locations and a map showing groundwater flow direction;*
- *Laboratory analytical reports;*
- *Data summary table(s) and graphical representations of the COCs detected in groundwater analytical results. The data tables will include a list of the compounds analyzed, Class GA groundwater standards and will highlight exceedances. The data summary tables and graphical representations will include a presentation of past data and evaluate contaminant concentration trends.*
- *Discussion of groundwater analytical results relative to Class GA groundwater quality standards;*
- *Data summary table of the ethene concentrations detected in the groundwater sample results. The ethene results will be evaluated on a presence/absence basis and the concentration trends compared over time;*
- *Geochemical parameters will be evaluated using the table below:*

Evaluation of Geochemical Data	
Parameter	***Data Use***
DO	*Concentration used to determine if aerobic or anaerobic degradation is likely to occur. DO concentrations >5 mg/L indicate aerobic conditions.*
Ethene	*One of the final products of chlorinated solvent reduction. Evaluated on a presence/absence basis. Presence of Ethene indicates degradation is occurring.*
ORP	*Measures the intensity or activity of the aquifer to mediate reactions of important elements in biological systems. <50 millivolts indicate reductive pathway is possible.*
pH	*General water quality parameter. Biological degradation processes are pH-sensitive. A pH range between 5 and 9 is optimal for reductive pathway.*
Temperature	*At temperatures >20°C, biochemical process is accelerated.*
Source & Notes: *Source: Adapted from Tables 2.1, 2.2 and 2.3 of the United States Environmental Protection Agency's document entitled "Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater," dated September 1998.* *Note: Analysis methods are detailed in Section 4.1 and sampling procedures are included in Appendix A of this SMP.*	

- *Discussion of the compliance of the Site's remedial program as approved by the NYSDEC and the NYSDOH and the overall performance and effectiveness of the remedy;*

- *Recommendations regarding any changes to the groundwater monitoring plan and/or frequency of reporting;*

- *The PRR will also include a certification of the ICs and ECs implemented at the Site. See Section 3 and Section 5 of this SMP for details.*

4.3 Monitoring Well Maintenance, Repair, Replacement and Abandonment

If biofouling or silt accumulation occurs in the on-site monitoring wells, the wells will be physically agitated/surged and redeveloped.

Any visible damage to the protective well cover or PVC well casing should be reported to the owner and NYSDEC, and repairs should be made by a qualified well installation contractor as needed. In the event that a damaged well cannot be repaired and can no longer produce representative groundwater samples, NYSDEC should be notified, and if determined necessary by NYSDEC the well should be decommissioned and replaced with a new well at an adjacent location.

NYSDEC will be notified in advance of any well decommissioning or replacement so that they may be present to observe. Well decommissioning will follow the NYSDEC's *document dated November 3, 2009 and entitled "CP-43 Groundwater Monitoring Well Decommissioning Policy." Decommissioning methods include grouting in-place, casing perforating/grouting in-place, casing pulling and over-drilling. The decommissioning method will be determined on a case-by-case basis and based upon well construction and environmental parameters.*

Documentation for any well that is decommissioned, and for any new replacement well will be provided to NYSDEC upon completion.

When NYSDEC has determined that *groundwater monitoring* is no longer necessary, NYSDEC may direct the owner to abandon some or all of the Site's observation and monitoring wells. Any such wells would be abandoned in accordance with the NYSDEC's *document dated November 3, 2009 and entitled "CP-43 Groundwater Monitoring Well Decommissioning Policy."*

SECTION 5 - OPERATIONS & MAINTENANCE (O&M) PLAN

5.1 Introduction

The O&M Plan presents the operation, maintenance, and inspection/monitoring requirements for the building systems that mitigate SVI. In the O&M Plan, the SSDS is referred to as the "mitigation system".

5.1.1 Soil Vapor Intrusion (SVI) Process Overview

SVI is the process by which soil vapor enters buildings through cracks or gaps in the building foundation or floor slabs. If the soil vapor is contaminated with VOCs, SVI could impact indoor air quality exposing building occupants to VOCs.

SVI may occur when VOC vapors accumulate in the small voids between soil particles below a building. Building occupants may be exposed to the VOC vapors if they seep inside the building through cracks or gaps in the building foundation or floor slab.

At the Site, VOC vapors were detected in soil vapor samples collected outside the building, and in vapor samples collected immediately below the floor slab of the lowest level. Indoor air tests indicated the presence of VOCs at levels above what is considered typical for background air samples unaffected by a contamination source. Because many of the detected VOCs are common in household and manufacturing chemicals, it is possible that they are not derived from SVI. However, because the possibility of SVI could not be ruled out based on the data, a SSDS was installed as a precautionary measure to preclude potential future exposure.

The likely source of the VOC vapors detected in soil vapor samples collected outside the building and below the floor slab appears to be groundwater contaminated with certain types of VOCs that were used at the Site in the past. The groundwater contamination was identified in the vicinity of the southwest portion of the building. The contaminated groundwater was remediated in 2008 *and 2012*, to *reduce* VOC contamination. Groundwater remediation constitutes the Site remedy to remove the principal remaining source of VOC vapors at the Site.

5.1.2 Soil Vapor Intrusion Mitigation

The current layout of the mitigation system is depicted on Figures 4 and 4A. The design, installation and all subsequent modifications to the mitigation system were subject to the review and approval of testing data and design documents by the NYSDEC and the NYSDOH.

Any additional measures that may be determined necessary in the future will be reviewed and approved by NYSDEC/NYSDOH before they are implemented, as was done for the existing mitigation systems. This SMP pertains to the O&M of the existing mitigation system. Amendments to this SMP will be issued as any additional building control measures are implemented.

If the system needs to be modified in the future to accommodate new building construction, or to correct any performance problems that may arise, modifications will be done after NYSDEC and NYSDOH are notified. NYSDEC/NYSDOH should also be notified of any new building construction that affects system performance, the measures proposed to correct the system or the proactive mitigation measures taken, and testing results that verify effectiveness.

The final proposed groundwater remedy for the Site, as noted above, is aimed at mitigating contamination in groundwater. It is recognized that for most sites, remediation efforts can eventually reduce VOC concentrations in soil vapor to levels that no longer require soil vapor mitigation systems (ITRC, January 2007). It is reasonably anticipated that at some point the mitigation system implemented may be turned off. However, the mitigation system is designed to operate continuously and indefinitely, until approval is received from NYSDEC/NYSDOH to alter their operation. Future decisions pertaining to terminating the IRM mitigation system will be based on the joint approval of NYSDEC, NYSDOH, and the building owner(s).

5.2 SSDS Description

5.2.1 Technology Overview

Sub-slab depressurization is widely considered to be the most practical SVI remedy for most existing and new buildings. The SSDS approach has been used successfully for more than twenty years to mitigate exposure to natural radon gas. The success of SSDS to mitigate exposure to radon has led to its widespread use to mitigate the effects of SVI.

SSDS function by creating a pressure differential across the floor slab that prevents vapors from moving upward from below the slab into the building. Because vapors migrate from high pressure to low pressure, SVI cannot occur as long as the air pressure below the floor slab is less than the air pressure inside the building. The SSDS prevents SVI by maintaining a negative pressure below the floor slab, such that any vapor movement will be downward from the building into the subsurface.

This is done by a network of ducts, made of PVC pipe, attached to a high-pressure fan. Vapors are pulled from below the floor slab by the fan, which is mounted on the roof, and vented into the atmosphere.

5.2.2 SSDS Layout

Figures 4, 4A, 5 and 5A illustrate the layout and design details of the SSDS currently operating at the Site. Photographs of certain system components are included in Appendix B of this SMP.

A. PIPING NETWORK & FAN. *The SSDS design utilizes a total of thirty-two individual vertical extraction points that penetrate below the floor slab. Thirty vertical extraction points are 3-inch in diameter and two are 4-inch in diameter. Twenty-three extraction points are in the main southern building area adjacent to existing vertical building support columns, seven are in adjoining western rooms*

and two are in the area of the building between Column 7 ½ and Column 16. Each extraction point was sealed with a non-VOC emitting polyurethane caulk at the pipe penetration into the concrete floor slab. The design objective was to uniformly space the extraction points across the southern building area to maximize coverage. Twenty of the extraction points in the main building area are positioned along lines that consist of three to four extraction points each, spaced 40 feet apart (adjacent to building columns). Because of building constraints, the other three extraction points in the main building areas were installed in a line of two extraction points and as a single extraction point. *The two extraction points, installed in the building between Column 7 ½ and Column 16, were positioned based upon the results of Pressure Field Extension (PFE) testing.* Figure 4 shows the SSDS layout relative to the building columns, which are represented on the figure as a grid. The lines of extraction pipes correspond to column lines 17, 19, 21, 23, 25, 27, 29, and 31. The vertical extraction pipes run within the cavities of the I-beam support columns and flare out near the bottom of the columns by 45-degree PVC elbows to avoid the column footings. Figure 5 shows the construction details of a typical line of three extraction points. *Figure 5A shows the typical construction detail of the two extraction points installed in the building between Column 7 ½ and Column 16.*

The extraction points are connected at the top by 4-inch horizontal PVC pipelines that run parallel to the short axis of the building. The horizontal lines connect to a horizontal 4-inch diameter PVC trunk line that runs along the long axis of the building, on the west side.

The horizontal trunk line is routed vertically through the ceiling and overlying floor, *in the area of Column E17* as indicated on Figure 4. The vertical line passes through the second story and connects to a centrifugal blower mounted on the roof. The blower is 5 horsepower Cincinnati HPD series high pressure blower rated for air flows as high as 800 cubic feet per minute (cfm). Blower specifications and manufacturer information is provided in Appendix C.

In July 2021, Soil Vapor Extraction (SVE) was added to bedrock monitoring well MW16-7BR and to injection trench T-11. Piping was installed which connected MW16-7BR and T-11 to the trunk line of the existing SSDS. These changes are depicted on Figure No. 4 of the SMP.

B. PRESSURE GAUGES. A U-tube pressure gauge is mounted on each of the vertical extraction pipes and on the vertical segment of pipe on the second floor of the building to monitor the system's performance. In accordance with standard practices for monitoring radon mitigation systems (ASTM 2121E; EPA/625/R-92/016), the SSDS pressure gauges provide a visual indication of system performance, are simple to read and interpret, and are located where they are easily seen. Pressure gauge specifications and manufacturer information is provided in Appendix C.

Each of the vertical extraction pipes has a built-in baffle that may be used to adjust flow as necessary based on pressure readings. The pressure gauges are used to monitor continued future system performance, as discussed in Section 5.3.

5.2.3 SSDS Alarm

In June 2023, an alarm system was installed on the trunk line of the SSDS. The alarm system is integrated into the building's existing Automated Logic Control (ALC) system. If the alarm is activated a text message and email will be sent to maintenance personnel.

The SSDS alarm system consists of both a pressure switch and a current switch. The pressure switch contains a diaphragm that is pulled away from an electrical contact by the negative pressure within SSDS trunk line. The pressure switch was set at 3 inches of water column (in/WC). If the negative pressure drops below 3 in/WC, the diaphragm will close, completing the electrical circuit and activating the alarm. Loss of electrical power also activates the alarm. The location of the SSDS Alarm is depicted on Figure 4A. Specifications for the components utilized in the SSDS Alarm are provided in Appendix C.

5.3 Performance Monitoring & Maintenance

The performance objective of the SSDS is to maintain a negative pressure of -0.002 inches of water column below the floor slab.

5.3.1 SSDS

For the SSDS, negative pressure is confirmed by the SSDS alarm and by monitoring the U-tube gauges on each extraction pipe. Differential pressure readings were taken below the floor slab multiple times, as summarized below:

- *August 2007 after the SSDS was initially activated;*
- *May 2008 after the SSDS was expanded into the western rooms;*
- *January 31, 2012 after the SSDS was expanded to include the area of the building between Column 7 ½ and Column 16.*
- *April 7, 2022 after piping was installed which connected MW16-7BR and T-11 to the trunk line of the existing SSDS.*

All differential pressure readings collected to date indicated that the SSDS creates more than adequate negative pressure over the required area of the building footprint and extends beyond the required area into the northern building area.

The SSDS is designed to operate continuously, and aside from the roof-mounted fan has no mechanized components. Maintenance requirements are few and simple. Appendix C includes technical specifications and documents relative to the SSDS.

In accordance with NYSDOH Soil Vapor Intrusion Guidance (October 2006), the SSDS monitoring and maintenance program will begin within twelve months of system activation (i.e. beginning in August 2008). Thereafter, routine inspection and any needed maintenance will be conducted every twelve months.

A. COMMUNICATION. The building owners will notify an appropriate representative for each building tenant that an SSDS exists on the premises. The tenants will be provided access to relevant documents, including this SMP, any subsequent amendments, the SSDS Design Document, and the SSDS IRM Report.

The responsibility for inspecting and maintaining the system will reside with facility maintenance personnel designated by SHBC management. The tenants will be informed to contact the building facility manager with any questions or issues relative to the operation of the SSDS. This will relate to matters such as the discovery of system damage or wear-and-tear.

Figure 6 presents contact information and lines of communication for soil vapor mitigation system. Lines of communication will generally run through the building facility manager, who will be responsible for conveying information to the building tenants and owners, NYSDEC, facility maintenance staff, and maintenance/repair contractors.

B. VISUAL INSPECTION. The building owners will designate facility representatives who will be responsible for conducting annual visual inspections of the SSDS, for documenting those inspections, and communicating to the building owners any issues requiring maintenance or other attention. Inspections will also occur after any power outages or interruptions, to make sure that the roof fan is operating, and the pressure gauges indicate a negative pressure after power is restored. An inspection form is included in this SMP as Appendix D.

As noted on the form, the SHBC facility manager should be contacted at (607) 256-2025 regarding matters pertaining to system operation and maintenance. The facility manager will contact the installation contractor to request repairs or to obtain answers pertaining to routine maintenance and operation of the SSDS.

A visual inspection of the system will include the following components:

- **Roof fan**. The fan should be visually inspected to make sure it is running and is clear of debris, especially the exhaust port. Any debris should be cleared, and any apparent damage to the fan should be documented and repairs scheduled as appropriate.

- ***SSDS Alarm****. Even though the SSDS alarm is integrated into the building's Automated Logic Control (ALC) system and automatically alerts maintenance personnel when a loss of power or negative pressure is detected, the SSDS alarm should be visually inspected and manually tested to make sure it is in working order.*

- **Pressure gauges**. Each U-tube pressure gauge should be checked, and measurements recorded to assure that negative pressure is being maintained. If adequate pressure is not maintained, the baffle on that particular extraction riser may be adjusted to correct the problem. If the pressure gauge is damaged or not functioning, it should be replaced (see Appendix C). In the event of a power outage, the pressure gauges on

each extraction riser should be checked after power is restored to make sure that negative pressure has been restored.

- **Piping**. A quick inspection of visible piping runs should be done to identify damage and/or cracks requiring repair. The penetration into the slab at each extraction point should be inspected to determine if the caulk seal is intact. Small cracks and leaks may often be repaired by application of polyurethane caulk. Larger cracks or damage may require a service call from the SSDS contractor. As designed, any leaks in the PVC piping network will cause the system to lose pressure and the SSDS will not operate as effectively. Because the entire piping network inside the building is under negative pressure, no VOCs will leak from the piping into the building if cracks or leaks occur. Regardless, steps should be taken to repair upon discovery any confirmed or suspected damage to piping.

As appropriate, preventative maintenance such as replacing the vent fan, repairs, and adjustments should be made to the system. The need for such maintenance will depend upon the life expectancy or warranty information associated with different system components. The fan specifications are included in Appendix C.

Inspection and maintenance procedures for additional mitigation system elements that are implemented in the future, such as modifications or additions to the SSDS, will be identified as those actions are approved by NYSDEC/NYSDOH and subsequently are implemented. Amendments to the SMP/O&M Plan will be issued relative to any additional measures.

C. NON-ROUTINE MAINTENANCE. Non-routine maintenance may also be necessary under certain circumstances that might occur independent of a scheduled inspection:

- Discovery that the SSDS is no longer properly functioning (exhaust fan not working, SSDS alarm activated, pressure gauges indicate lack of negative pressure);

- Component(s) of SSDS becomes damaged;

- After power is restored following any power outage or interruption, the pressure gauges on each extraction riser should be checked to determine that negative pressure has been restored.

The building facility manager will be notified immediately upon discovery that the SSDS is not functioning properly or has become damaged and will notify NYSDEC within 24 hours of such discovery and how the problem was resolved.

Significant building renovations may also potentially reduce effectiveness of the SSDS, which may require maintenance or modification. Renovations that may potentially reduce indoor air pressure, such as installing vents, blowers, or fume hoods that exhaust to the outdoors, should be avoided. If these installations are necessary, there must be a commensurate makeup air system to maintain the existing indoor air pressure, and ideally, the makeup air should increase indoor air pressure.

Floor penetrations (i.e. installation of sumps, floor drains, etc.) should also be avoided. Floor penetrations may weaken the negative pressure field below the floor slab and render the SSDS less effective. If there is no feasible alternative to a floor penetration, it must be properly sealed to prevent air flow through the penetration that may affect the operation of the SSDS.

NYSDEC will be notified by the building facility manager of any building construction activities that may require the SSDS to be modified, and that SSDS modifications will be submitted to NYSDEC for review and approval prior to implementation. Periodic Review Reports will include a discussion of building construction activities in the previous year, and any associated modifications to the SSDS.

5.4 Documentation & Reporting Requirements

Any repair needs that are identified should be documented (see Appendix D), and inspection forms should be maintained on-site with the facility manager in a Soil Vapor Mitigation System O&M file. Documentation should include any apparent damage to or malfunction of the SSDS fan or air intake units, visible or suspected damage to any portions of the SSDS piping network. Any corrective actions taken relative to the above items should also be documented.

Any significant building renovations or modifications that may affect system effectiveness should also be recorded in the O&M file, as well as what measures were taken to mitigate the effects of the system.

A copy of all documents added to the O&M file should be immediately forwarded to the facility environmental manager, GeoLogic.

A PRR will be prepared by a professional engineer or qualified environmental professional affirming that the system is still in place, operational, and functioning as intended. The report will include copies of all maintenance and monitoring documents maintained in the on-site O&M file and describe any maintenance and/or repair activities that occurred over the past year. The report will be submitted to NYSDEC/NYSDOH, and a copy will be maintained in the on-site O&M file.

5.5 System Shutdown

Should the property owner wish to stop operating the SSDS, prior to doing so the owner must submit a Work Plan to NYSDEC for approval that details soil vapor intrusion testing to be conducted to verify that soil vapor intrusion is no longer an issue at the Site. The testing protocol and approach must be approved by the State before the testing is conducted. Testing methods may include a combination of soil vapor sample collection, indoor/outdoor air sample collection, and sub-slab vapor sample collection, as determined appropriate.

Should NYSDEC concur with the owner that the data indicates the soil vapor mitigation system(s) can be shut down, the owner will submit to NYSDEC for approval an indoor air sampling plan for specified post shutdown period, including a monitoring schedule to verify that soil vapor mitigation is no longer required.

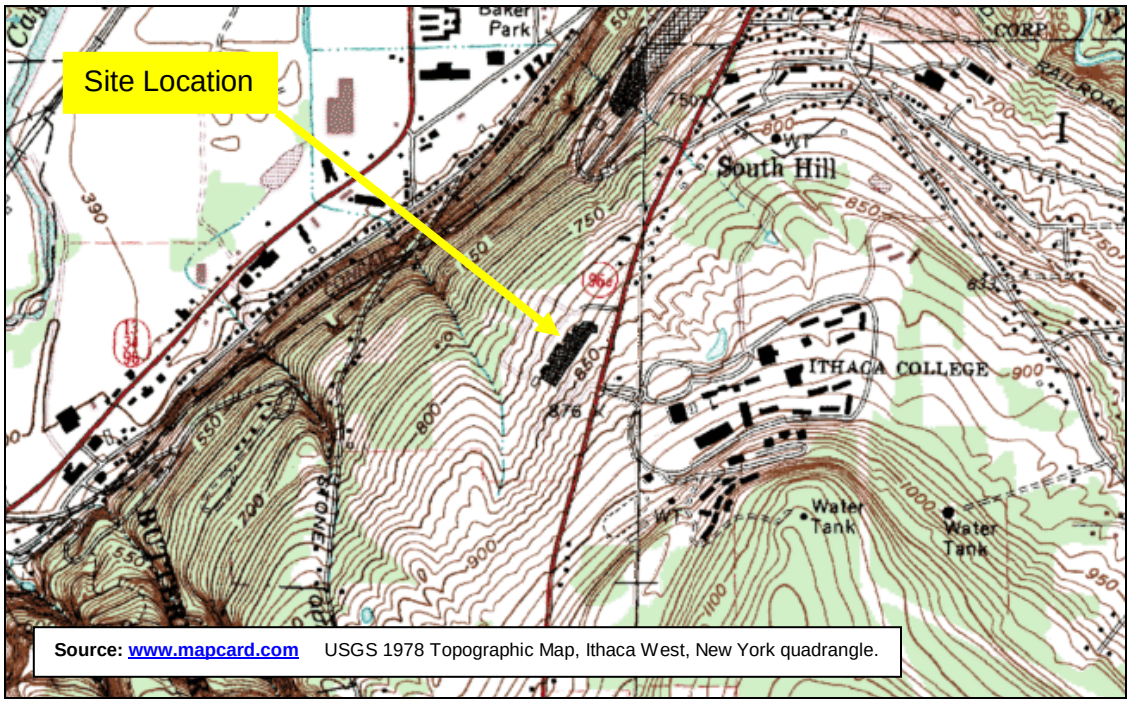
SECTION 6 - ENVIRONMENTAL EASEMENT

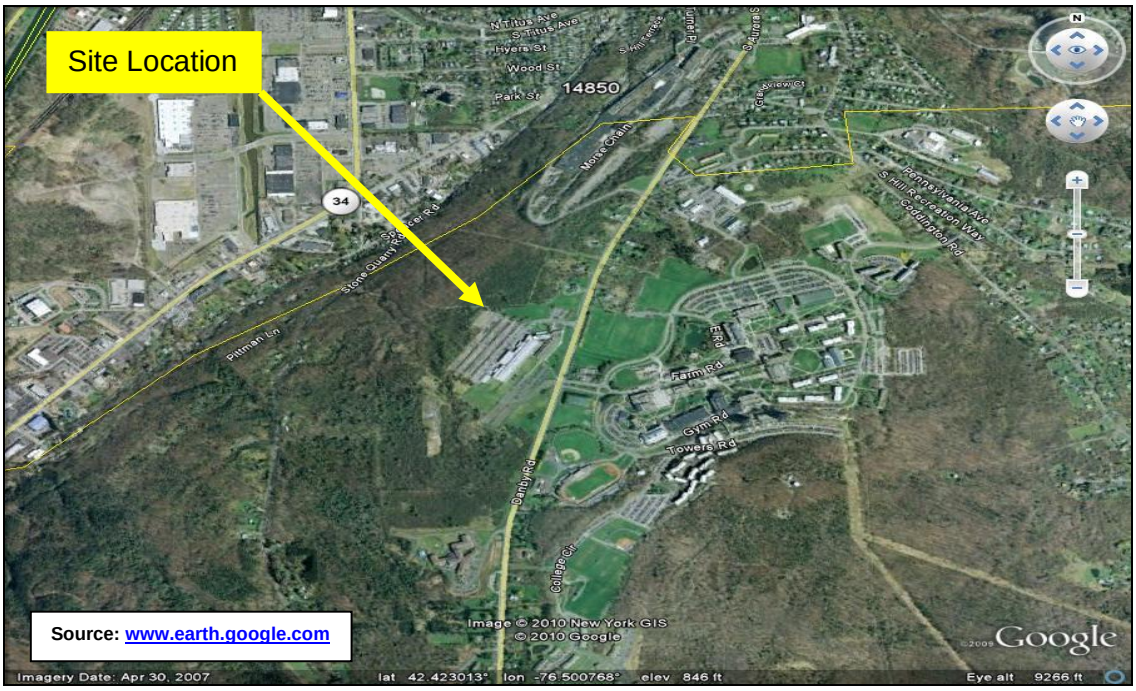
An environmental easement has been submitted to NYSDEC for approval. The environmental easement will run with the land in favor of the State and complies with the requirements of ECL Article 71, Title 36. The environmental easement (Appendix E) has been recorded with the land records of the Tompkins County Clerk's Office.

The environmental easement shall require the property owner to provide certification to the NYSDEC, prepared by a professional engineer or such other qualified environmental professional acceptable to the NYSDEC, until the NYSDEC notifies the property owner in writing this certification is no longer needed. This submittal will contain certification that the engineering and institutional controls are still in place, effective, that the NYSDEC is allowed access to the Site, and that nothing has occurred that will impair the ability of the control to protect the public health or the environment or constitute a violation or failure to comply with the SMP.

The owner of the Site can petition NYSDEC to modify or extinguish the environmental easement at such time as it can certify that the Site is protective of human health and the environment without reliance upon the restrictions set forth in the environmental easement. Such certification must be made by a Professional Engineer, or other qualified environmental professional that has been approved by NYSDEC.

FIGURES





N

Project North

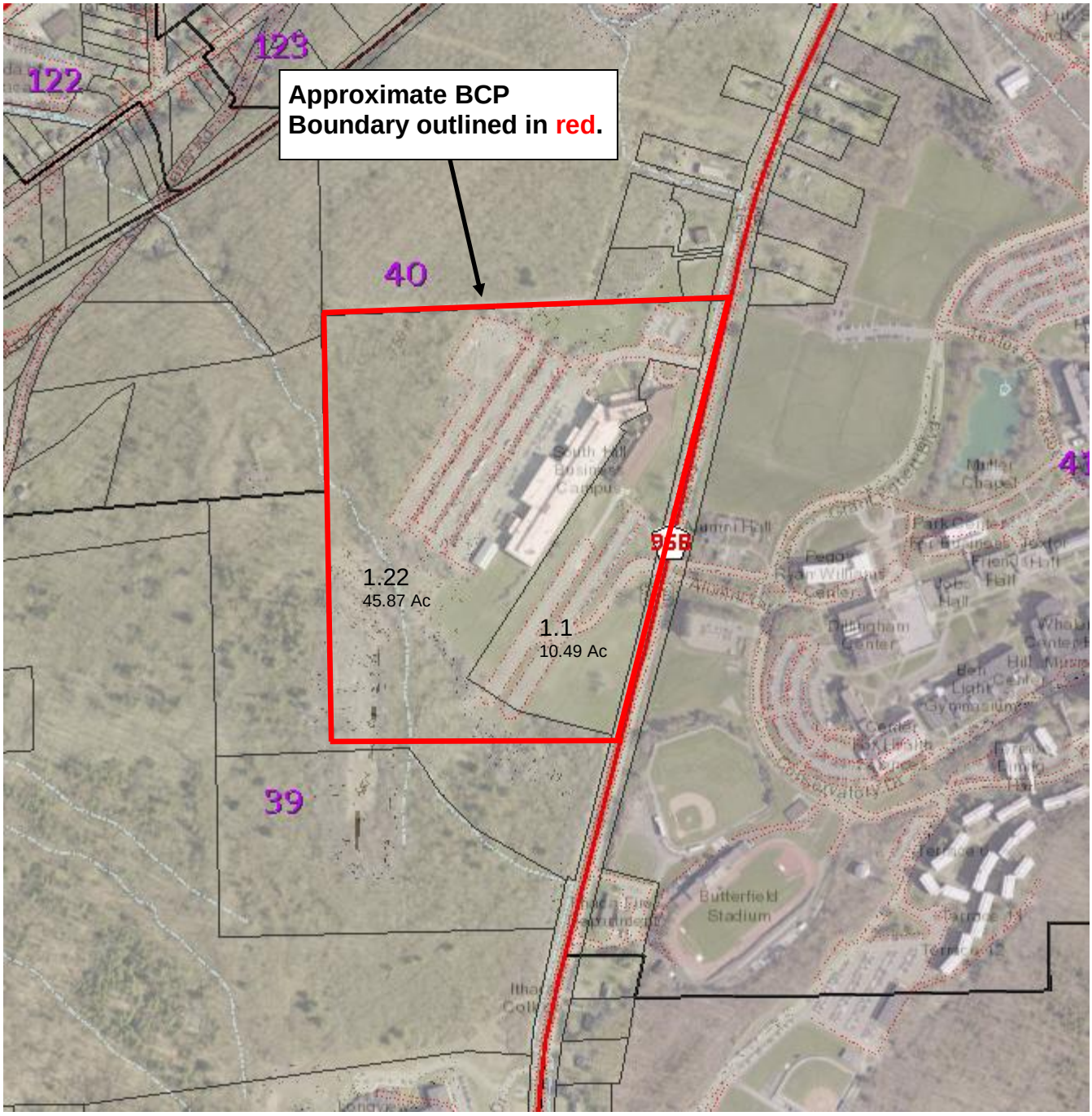
GeoLogic

GeoLogic NY, PC, Homer, New York

SITE LOCATION PLAN
FORMER AXIOHM FACILITY (SITE NO.: C755012)
950 DANBY ROAD
ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO:
CTG	Not To Scale	209164
REVIEWED BY:	DATE:	FIGURE NO:
FCE	APRIL 2018	1

File:..P:\PROJECTS\2009\209164 - SHBC\REPORT\2018 Reports\SMP Version 4 Jan. 2018\Figure No. 1 Site Location.DOC



Source: https://geo.tompkins-co.org/html/?viewer=tcpropmo. Portions of Tax Maps: 39, 40 and 41.

N

Project North

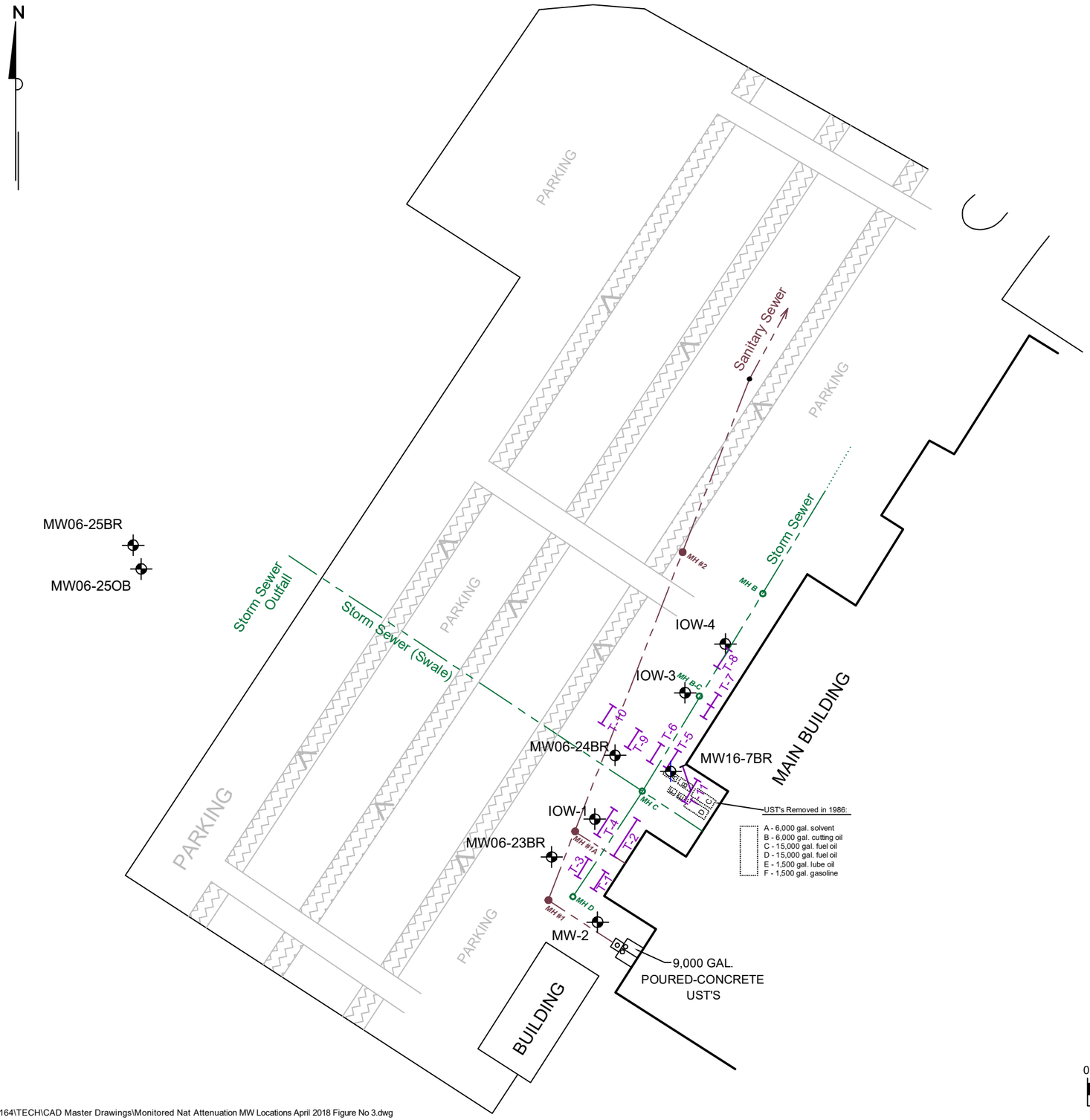
GeoLogic

GeoLogic NY, PC, Homer, New York

SITE PLAN & BCP BOUNDARY MAP
FORMER AXIOHM FACILITY
SITE NO. C755012
950 DANBY ROAD, ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO:
CTG	Not To Scale	209164
REVIEWED BY:	DATE:	FIGURE NO:
FCE	APRIL 2018	2

P:\PROJECTS\2009\209164 - SHBC\REPORT\2018 Reports\SMP Version 4 Jan. 2018\Figure No. 2 Site Plan & BCP Boundary Map.docx



LEGEND:

- SLOPES DOWN
- ISCO INJECTION TRENCH
- MONITORING WELL & IOW - INJECTION OBSERVATION WELL LOCATIONS
  - OB = OVERBURDEN BR = BEDROCK
- ● *MH #1* SANITARY SEWER MANHOLE
- ○ *MH B* STORM SEWER MANHOLE

NOTE: DRAWING BASED ON POST-REMEDIATION MONITORING FIGURES 3, 4, 5, 6, PREPARED BY S&W REDEVELOPMENT OF NORTH AMERICA, LLC, DATED 10/2009.

THIS MAP DOES NOT CONSTITUTE A SURVEY AND IS ONLY INTENDED TO CONVEY APPROXIMATE SAMPLE LOCATIONS AND SITE FEATURES.

APPROXIMATE SCALE:

0' 30' 90' 180'

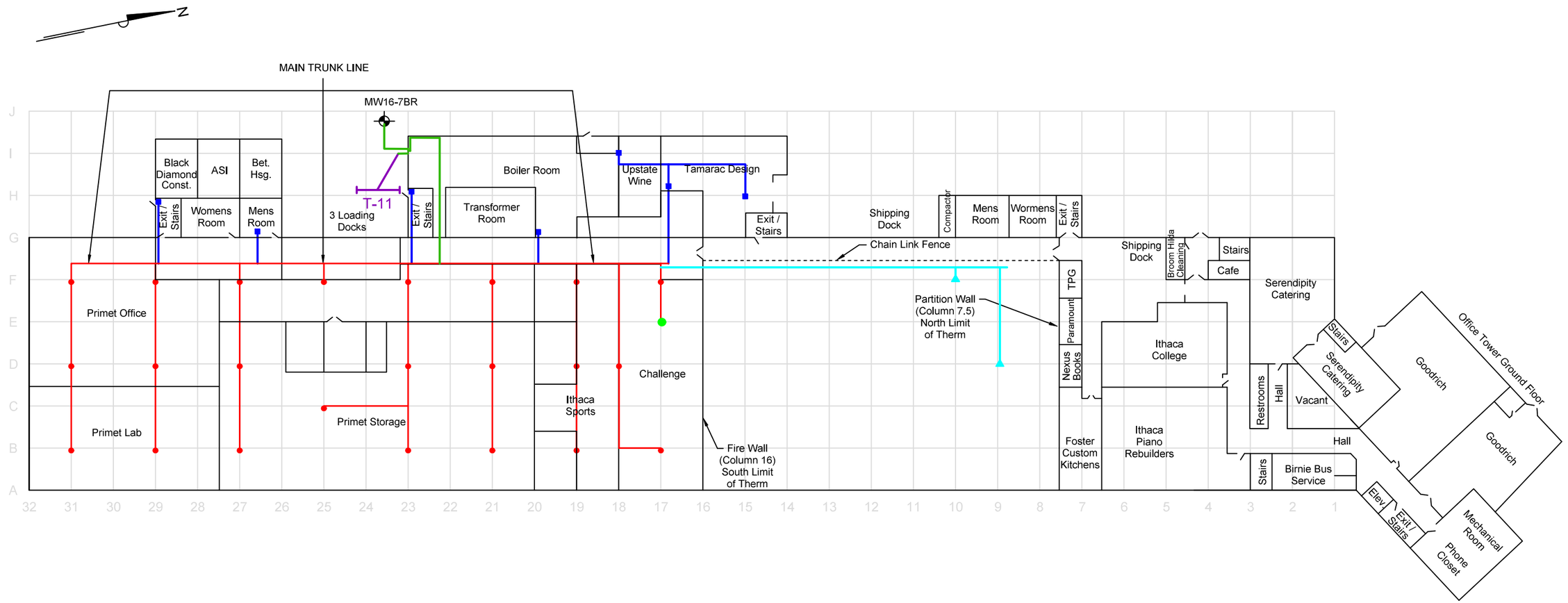
GeoLogic

GeoLogic NY, P.C., Homer, New York

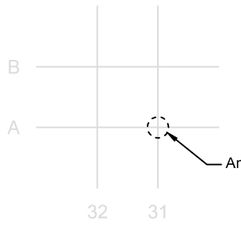
GROUNDWATER MONITORING WELL LOCATIONS
SITE NO. C755012, FORMER AXIOHM FACILITY
950 DANBY ROAD, ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO.:
CTG/SDW	AS SHOWN	209164
REVIEWED BY: FCE	DATE: APRIL 2018	FIGURE NO.: 3

\..\209164\TECH\CAD Master Drawings\Monitored Nat Attenuation MW Locations April 2018 Figure No 3.dwg



Grid representing support column locations.



- Suction Riser, 2007 Installation (3' dia. PVC)
- Horizontal Piping, 2007 Installation (4" dia. PVC)
- Vertical Stack to Fan (4" dia. PVC)
- Suction Riser, 2008 Western Expansion Installation (3' dia. PVC)
- Horizontal Piping, 2008 Western Expansion (4" dia. PVC)
- Extraction Riser 2012 Modification (4" dia. PVC)
- Horizontal Piping 2012 Modification (4" dia. PVC)
- ISCO Injection Trench
- Monitoring Well
- Horizontal & Vertical Piping 2021 Modification (3" & 4" dia. PVC)

APPROXIMATE SCALE:

0' 10' 50' 100'

NOTE: DRAWING BASED ON FIGURE 3-3 SUB-SLAB DEPRESSURIZATION SYSTEM LAYOUT, PREPARED BY S & W REDEVELOPMENT, SYRACUSE, NY, DATED AUGUST 2008.

THIS DRAWING DOES NOT CONSTITUTE A SURVEY AND IS INTENDED TO CONVEY APPROXIMATE SAMPLE LOCATIONS AND SITE FEATURES.

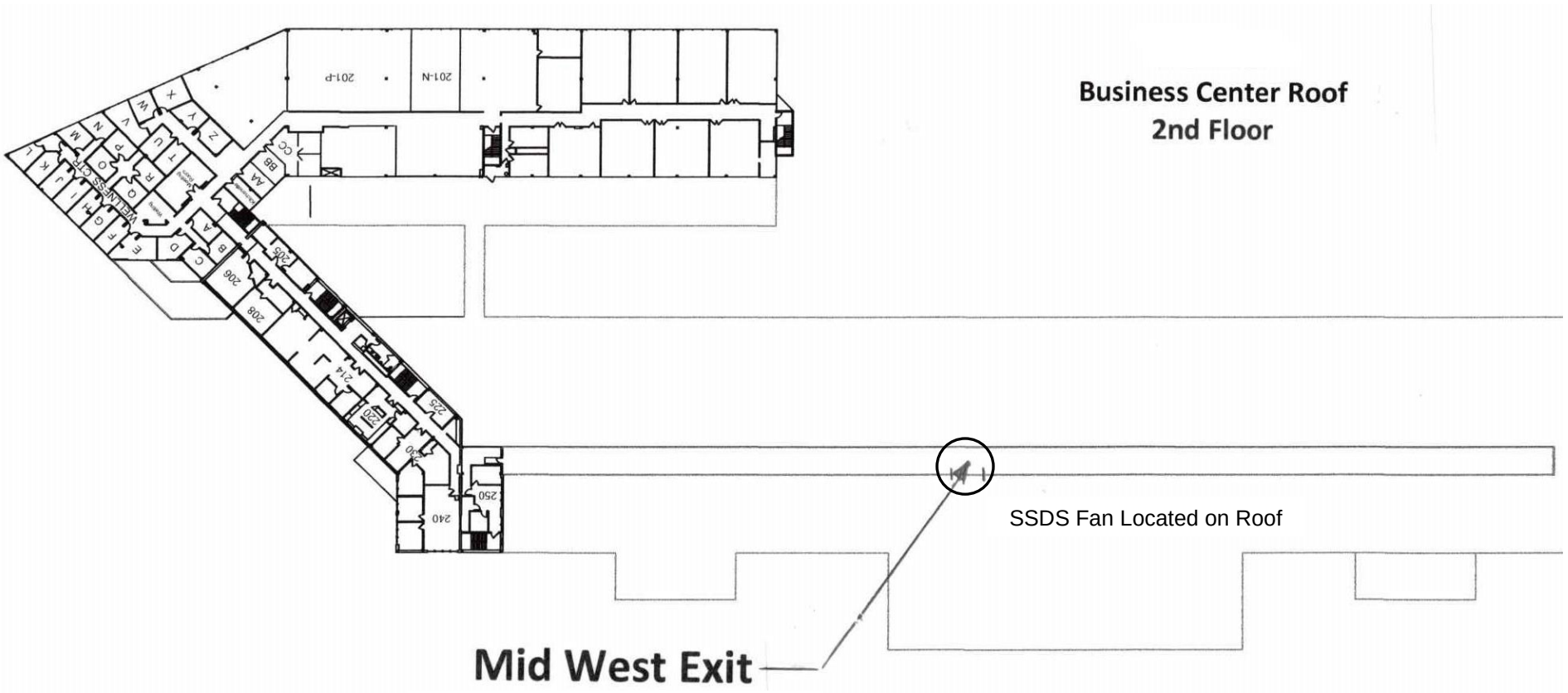
GeoLogic

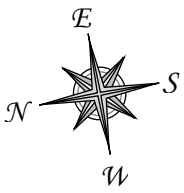
GeoLogic NY, P.C., Homer, New York

SUB-SLAB DEPRESSURIZATION SYSTEM (SSDS) LAYOUT
SITE NO. C755012
FORMER AXIOHM FACILITY
950 DANBY ROAD, ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO.:
CTG/SDW	AS SHOWN	209164
REVIEWED BY:	DATE:	FIGURE NO.:
FCE	SEPT. 2021	4

\..\209164\TECH\CAD MASTER DRAWINGS\FIGURE NO 11 SSDS LAYOUT.DWG





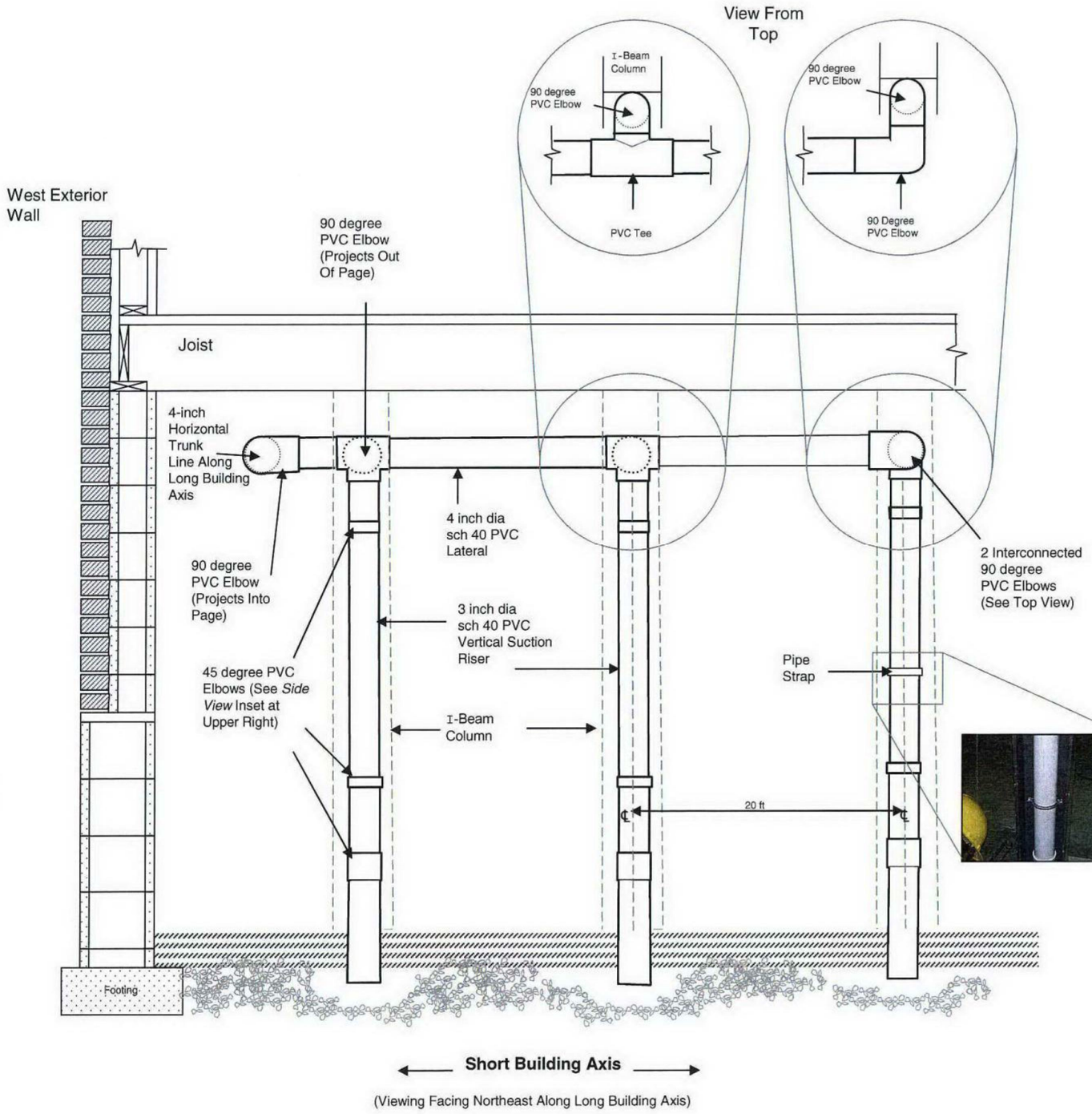
GeoLogic

GeoLogic NY, P.C.

SSDS ALARM LOCATION PLAN
SITE NO. C755012
FORMER AXIOHM FACILITY
950 DANBY ROAD, ITHACA, NEW YORK

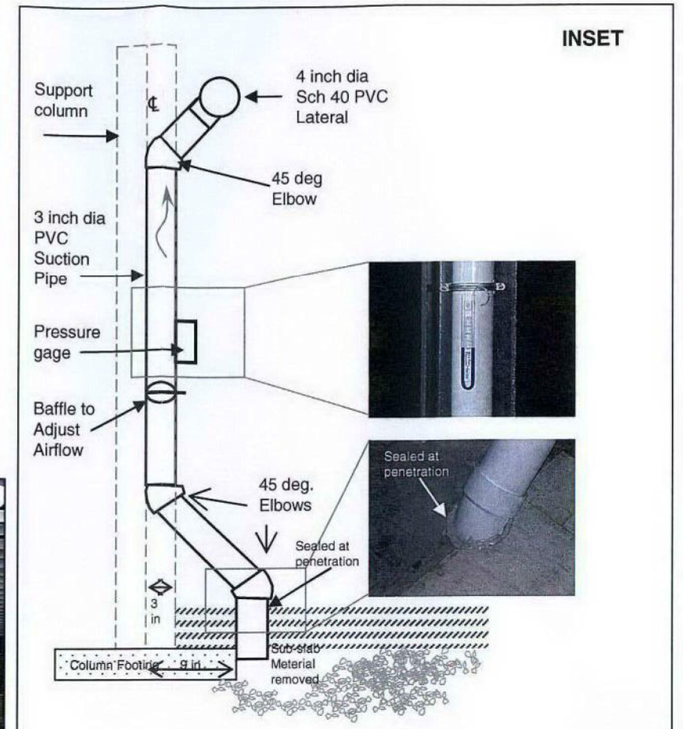
DRAWN BY:	SCALE:	PROJECT NO:
CTG	Not To Scale	209164
REVIEWED BY:	DATE:	DRAWING NO:
FCE	JULY 2023	4A

FILE: P:\PROJECTS\2009\209164 - SHBC\REPORT\2023 Reports\SMP Revision No. 6\Figures for SMP Revision No. 6\Figure 4A - SSDS Alarm Location.docx



Typical vertical suction riser within row F I-beam, along west side of building.

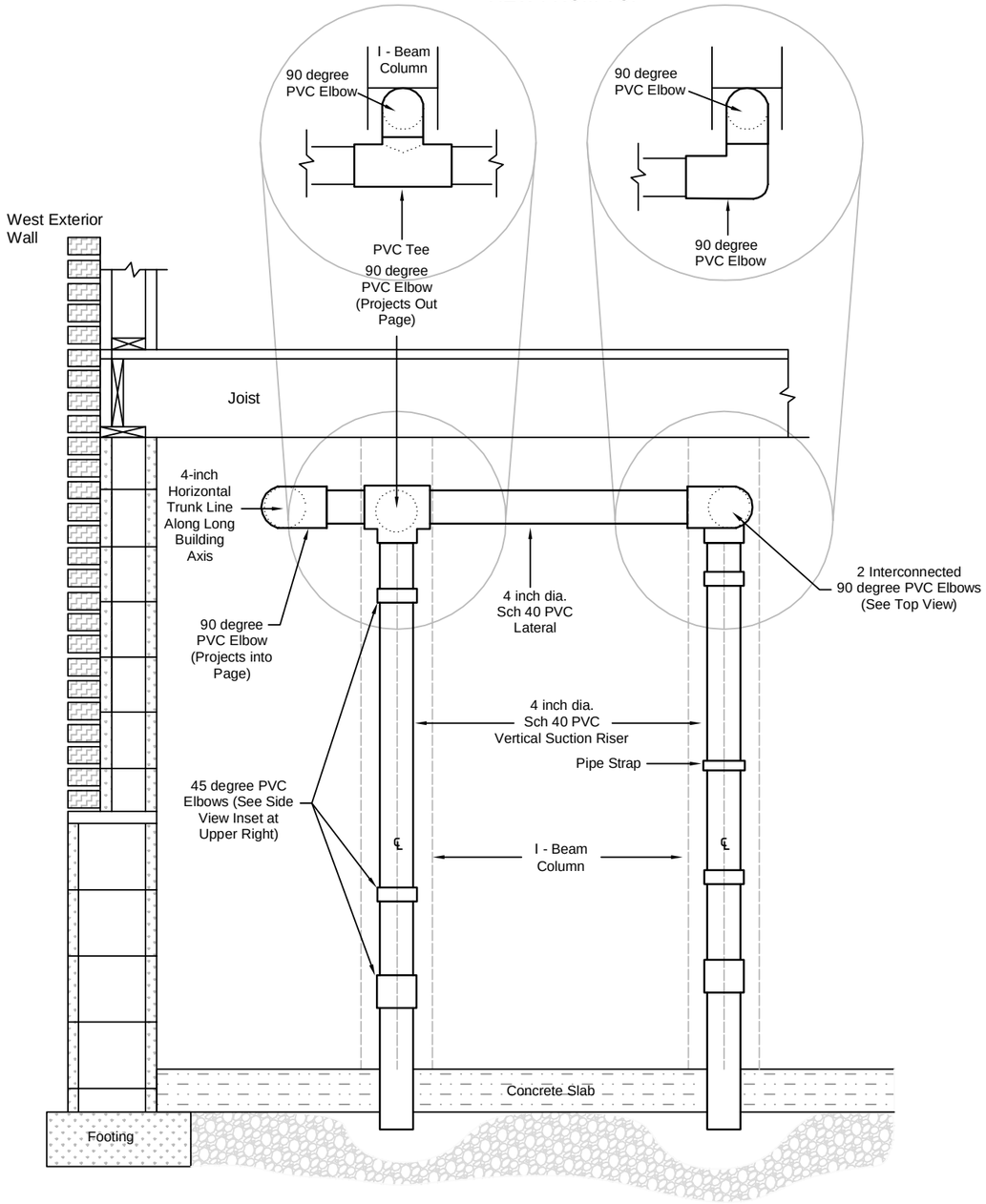
Typical vertical suction riser within row B I-beam, along east side of building.



Side View (Along Short Building Axis)

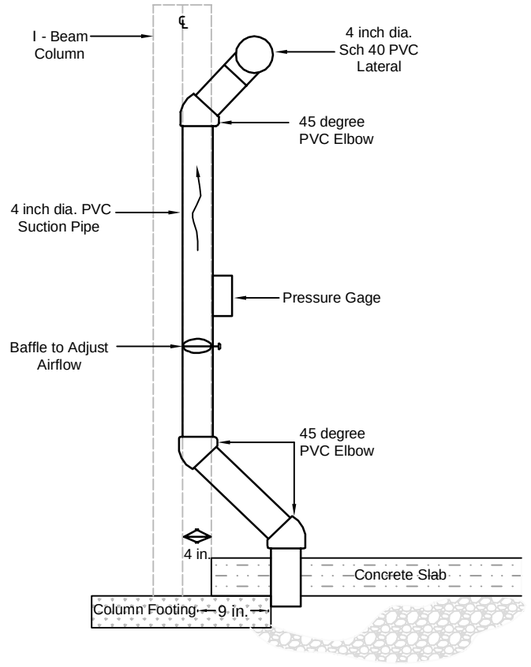
S&W Redevelopment of North America, LLC Syracuse, New York	Site Management Plan South Hill Business Campus 950 Danby Road, Ithaca, Tompkins Co., New York BCP Site # C755012
DATE: 9/2008 JOB No. B4001	Figure 5 Sub-Slab Depressurization System Construction Detail

VIEW FROM TOP



SHORT BUILDING AXIS
(View Facing Northeast Along Long Building Axis)

INSET



SIDE VIEW (Along Short Building Axis)

NOTE: DRAWING BASED ON FIGURE 3-4 SUB-SLAB DEPRESSURIZATION SYSTEM CONSTRUCTION DETAIL, PREPARED BY S & W REDEVELOPMENT, SYRACUSE, NY, DATED AUGUST 2008.

THIS DRAWING DOES NOT CONSTITUTE A SURVEY AND IS INTENDED TO CONVEY APPROXIMATE SAMPLE LOCATIONS AND SITE FEATURES.

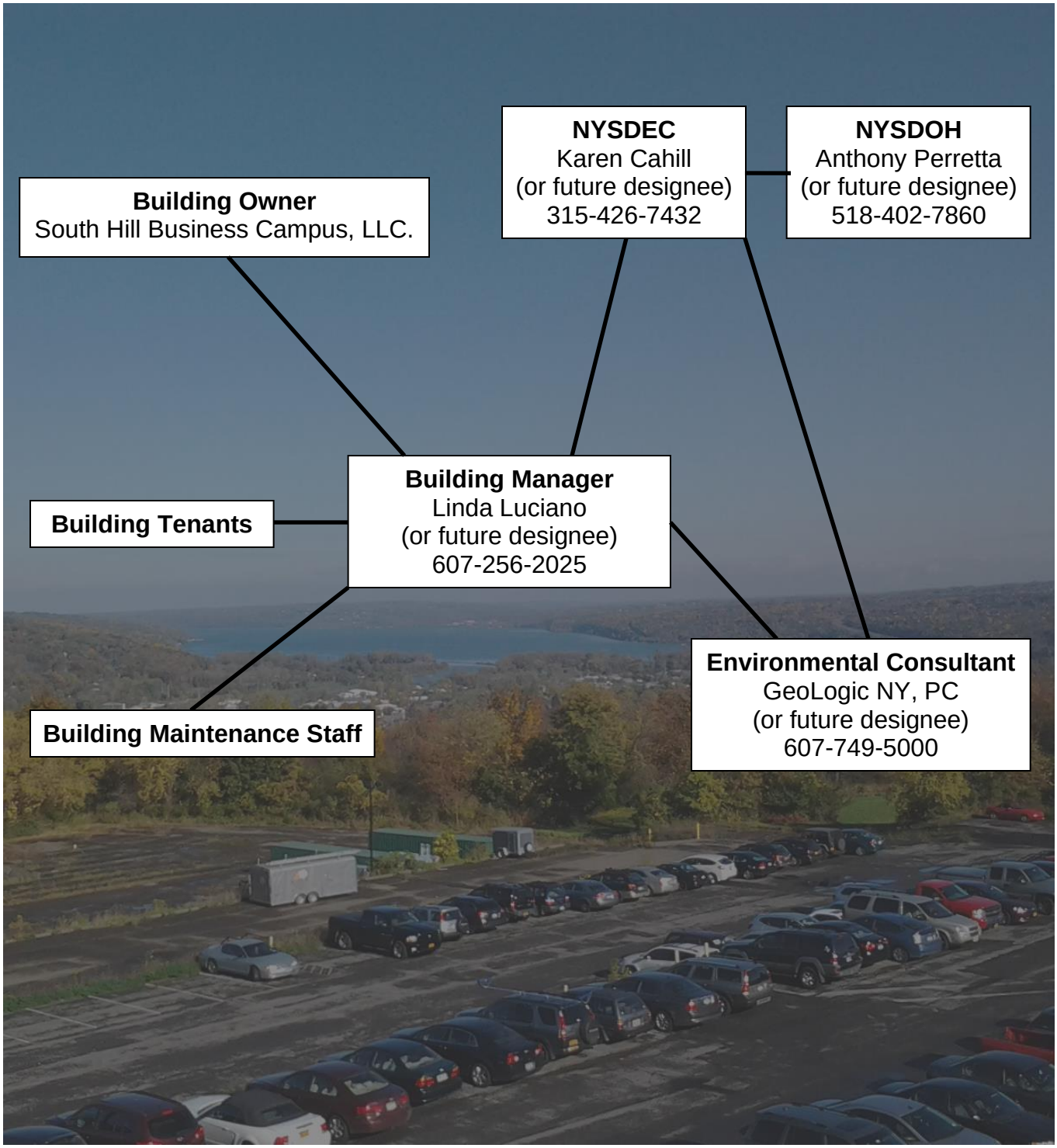
GeoLogic

GeoLogic NY, P.C., Homer, New York

SUB-SLAB DEPRESSURIZATION SYSTEM CONSTRUCTION DETAIL
SITE NO. C755012
FORMER AXIOHM FACILITY
950 DANBY ROAD, ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO.:
CTG/SDW	NTS	209164
REVIEWED BY:	DATE:	FIGURE NO.:
FCE	APRIL 2018	5A

\..\209164\TECH\CAD MASTER DRAWINGS\FIGURE NO 12 - SSDS CONSTRUCTION DETAIL IMAGE.DWG



GeoLogic NY, PC, Homer, New York

LINES OF COMMUNICATION
FORMER AXIOHM FACILITY
SITE NO. C755012
950 DANBY ROAD, ITHACA, NEW YORK

DRAWN BY:	SCALE:	PROJECT NO:
CTG	Not To Scale	209164
REVIEWED BY:	DATE:	FIGURE NO:
FCE	APRIL 2018	6

P:\PROJECTS\2009\209164 - SHBC\REPORT\2021 Report\SMP Revision No. 5\Figures for SMP Revision No. 5\Figure No. 6 Lines of Communications Sept. 2021.docx

APPENDIX A

SAMPLING PROCEDURES

A.1 - GROUNDWATER SAMPLING METHODOLOGY

Groundwater samples will be collected from the groundwater monitoring wells (MWs) and injection observation wells (IOWs) as specified in the Site Management Plan (SMP).

WATER LEVEL MEASUREMENTS

Static water levels will be measured with an electronic water level indicator and referenced to the top of the well casing. Water levels will be recorded to the nearest 0.01 foot. The electronic water level indicator will be rinsed with a liquinox and potable water solution and/or distilled water between each well.

FIELD PARAMETERS

Field parameters will be measured and recorded for each well during the annual groundwater sampling event. The field parameters include Dissolved Oxygen (DO), Oxidation Reduction Potential (ORP), pH, Temperature and Turbidity. The field parameters will be measured with a YSI 600XL multi-parameter sonde or similar equipment. The YSI will be rinsed with a liquinox and potable water solution and/or distilled water between each well.

GROUNDWATER SAMPLING

The wells will be purged prior to obtaining groundwater samples. Low-flow techniques or dedicated bailers will be utilized to purge the well. During low-flow purging, field parameters will be recorded to establish equilibrium prior to sample collection. If bailers are utilized, a minimum of three well volumes will be purged or the well will be purged dry prior to sample collection. If the well is purged dry, prior to three well volumes being removed, the well will be allowed to recover overnight, and the sample collected the follow day.

Purging and sampling of the monitoring and observation wells will be completed utilizing new or dedicated PVC bailers or a peristaltic pump equipped with new or dedicated polyethylene tubing using low-flow techniques or other methodology approved by the NYSDEC.

Groundwater samples will be collected directly into containers provided by the analytical laboratory and kept chilled until delivery to the laboratory. A chain of custody will be maintained throughout sampling and delivery of the samples to the laboratory.

Groundwater samples will be submitted to an independent Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis. The groundwater samples will be analyzed for Volatile Organic Compounds (VOCs) on the target compound list and Ethene.

QUALITY ASSURANCE/QUALITY CONTROL (QA/QC) SAMPLES

- Trip Blank: A trip blank will be prepared before the sample bottles are sent by the analytical laboratory. A trip blank consists of a sample of distilled or deionized water which accompanies the other sample bottles into the field and back to the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for VOCs is planned (water matrix only). The trip blank will be analyzed for VOC as a measure of the internal laboratory procedures and their effects on the results.

- Duplicate Sample: A "blind" duplicate sample will be collected at one of the monitoring or observation wells. The location will be recorded in the field book, but the location will not be disclosed on the chain of custody form.

- Matrix Spike/Matrix Spike Duplicate (MS/MSD): Two duplicate samples (one MS and one MSD) will be collected at one of the monitoring or observation wells. Unlike the blind duplicate, the location where the MS/MSD samples were collected will be identified on the chain of custody form.

A.2 – SAMPLE PRESERVATION AND SHIPMENT

All groundwater samples bottles will contain the necessary acid preservatives (hydrochloric acid) as provided by the analytical laboratory. 40-mL VOA vials must be completely full, with no air bubbles present.

The bottles will be sent from the laboratory in coolers and will be organized on a per site basis. Following sample collection, the bottles will be placed on ice in the shipping cooler. The samples will be cooled to approximately 4°C, but not frozen.

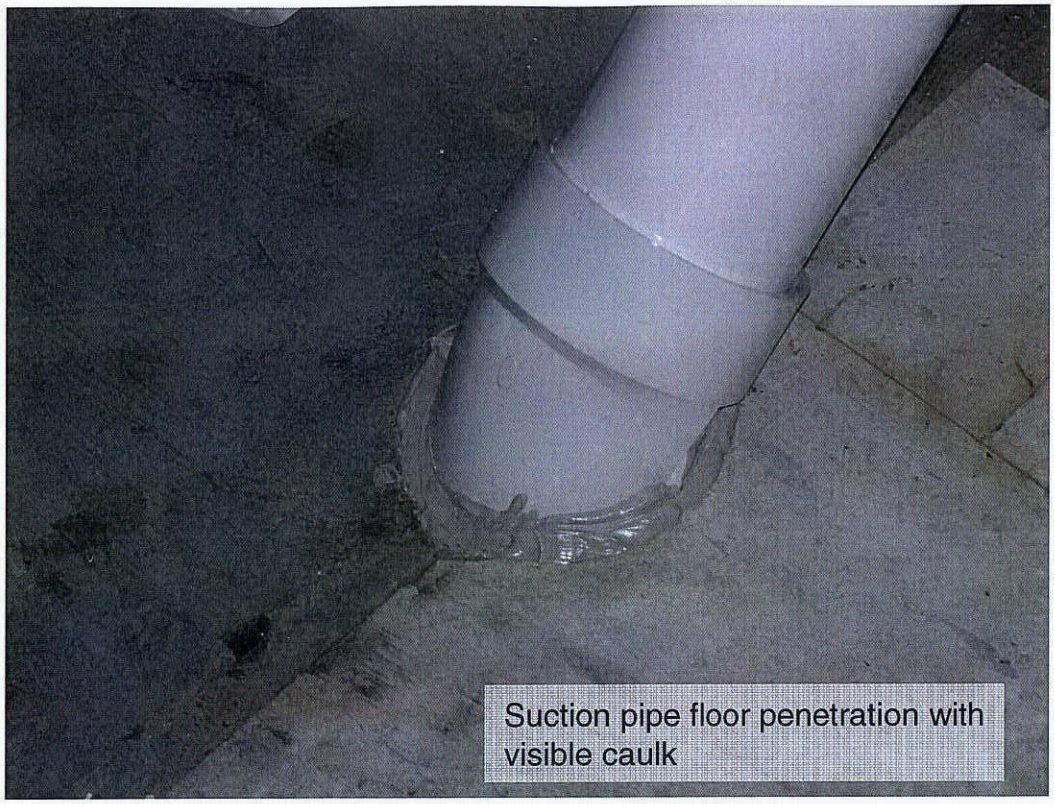
Final packing and shipping of coolers will be completed by the laboratory, in accordance with the guidelines outlined in the "User's Guide to the CLP".

A.3 – FIELD SAMPLE CUSTODY

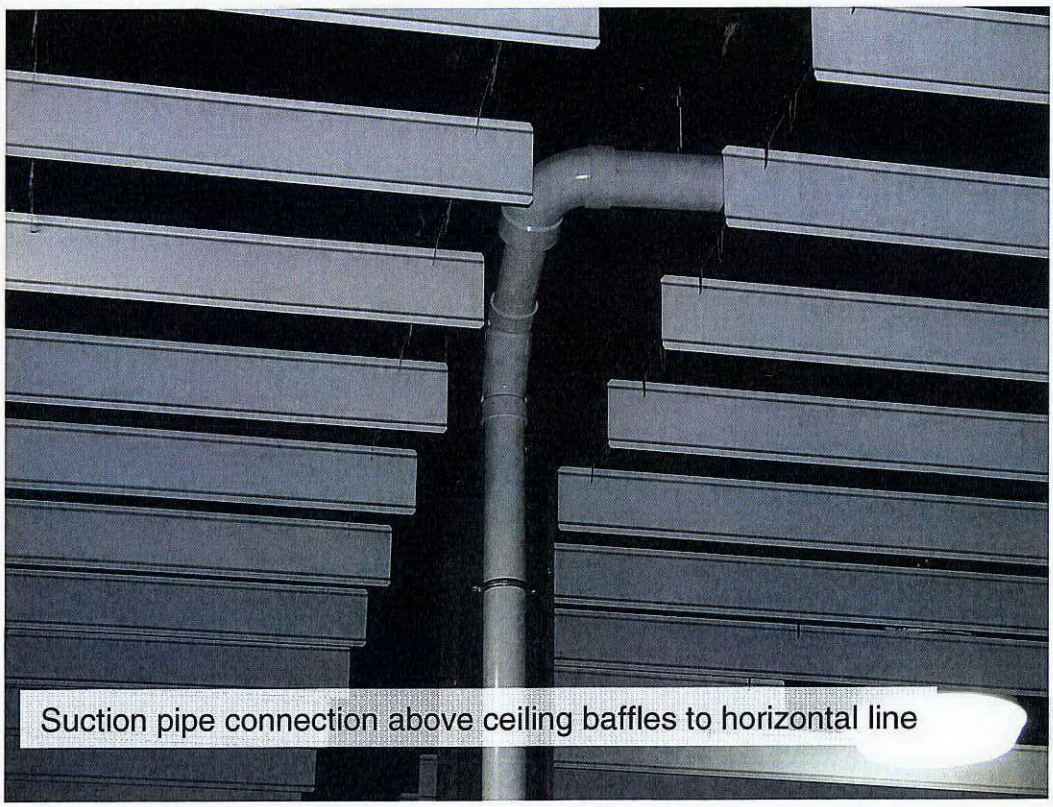
A chain of custody record will accompany the samples, from initial sample container selection and preparation at the laboratory, to delivery of sample containers to the field for sample collection and preservation and return of the samples to the laboratory for analysis. Individual shipping containers (i.e. coolers) will be provided by the laboratory and will be used to transport the samples from the laboratory to the field for sample collection and return to the laboratory for analysis. The coolers are insulated, and chemical ice and/or wet ice will be used to maintain samples at approximately 4°C until the samples are returned and in the custody of the laboratory. All sample bottles within each shipping container are individually labeled and controlled. Samples will be shipped to the laboratory within 24 to 48 hours of the day of collection.

APPENDIX B

PHOTOGRAPHS



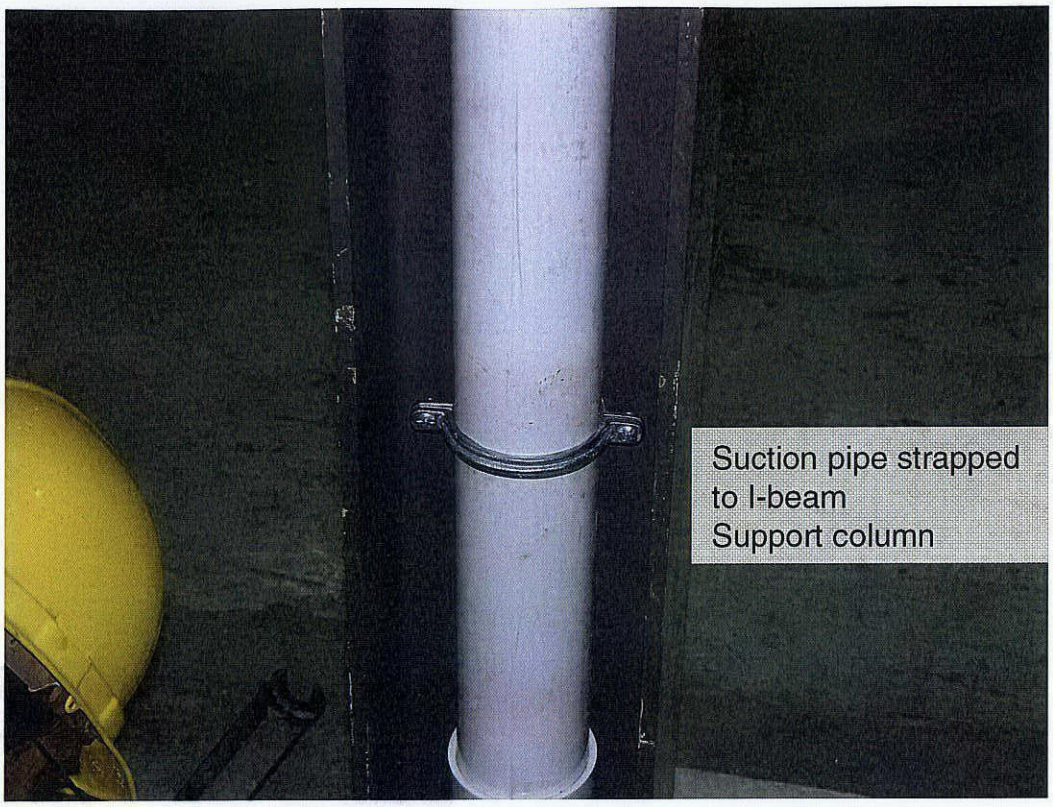
Suction pipe floor penetration with visible caulk



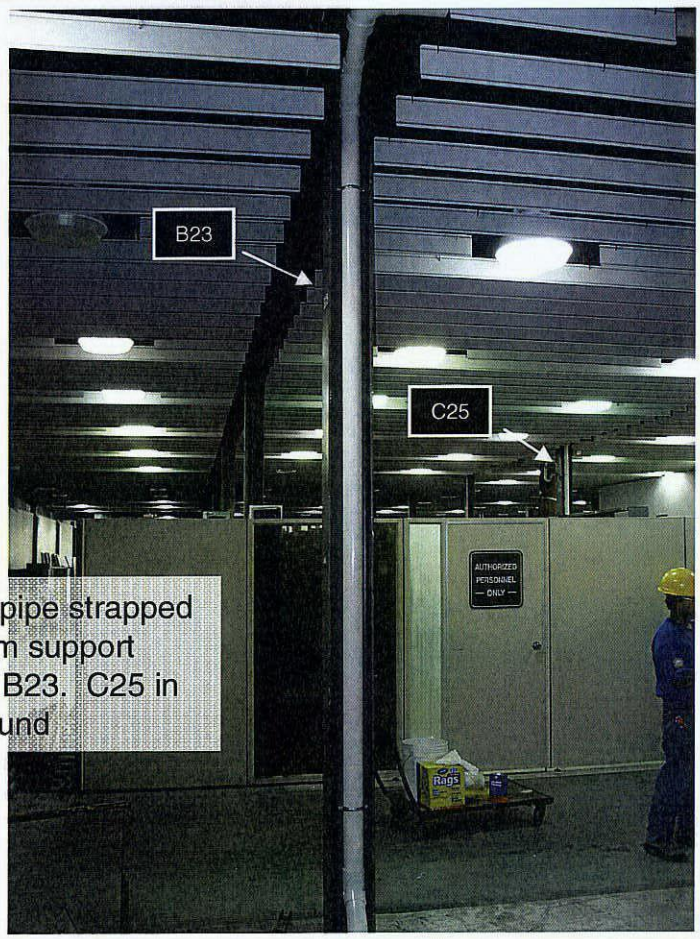
Suction pipe connection above ceiling baffles to horizontal line

SSDS Installation
950 Danby Rd

S&W
REDEVELOPMENT



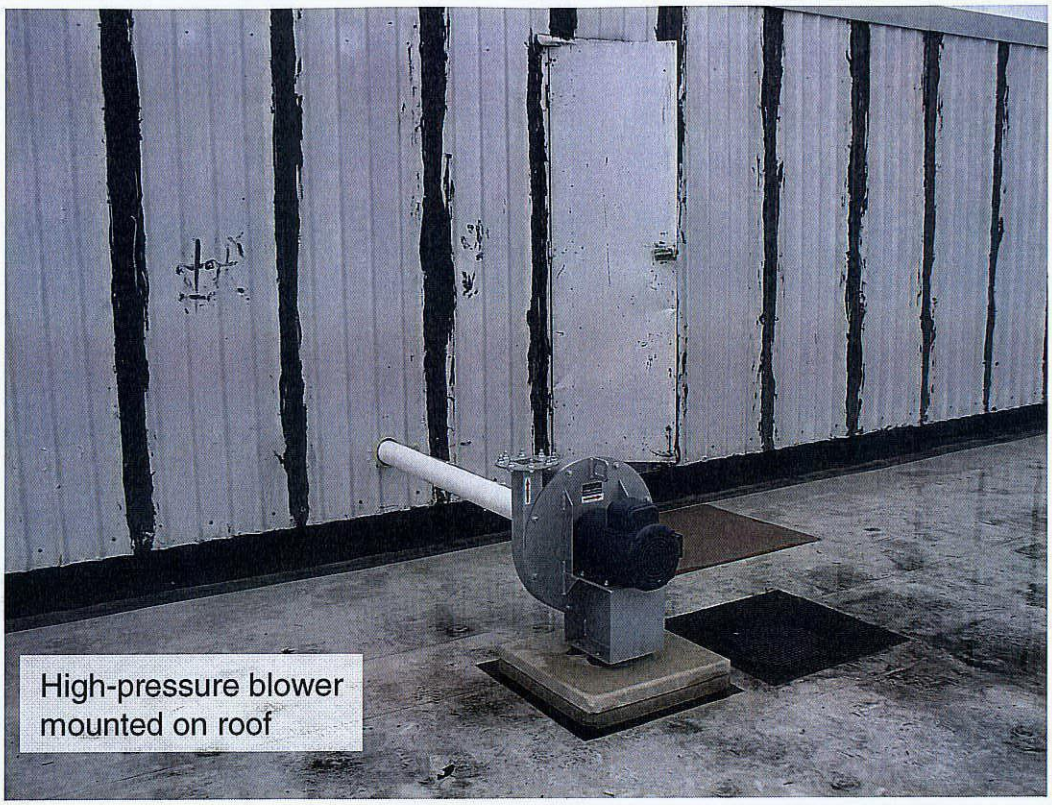
Suction pipe strapped
to I-beam
Support column



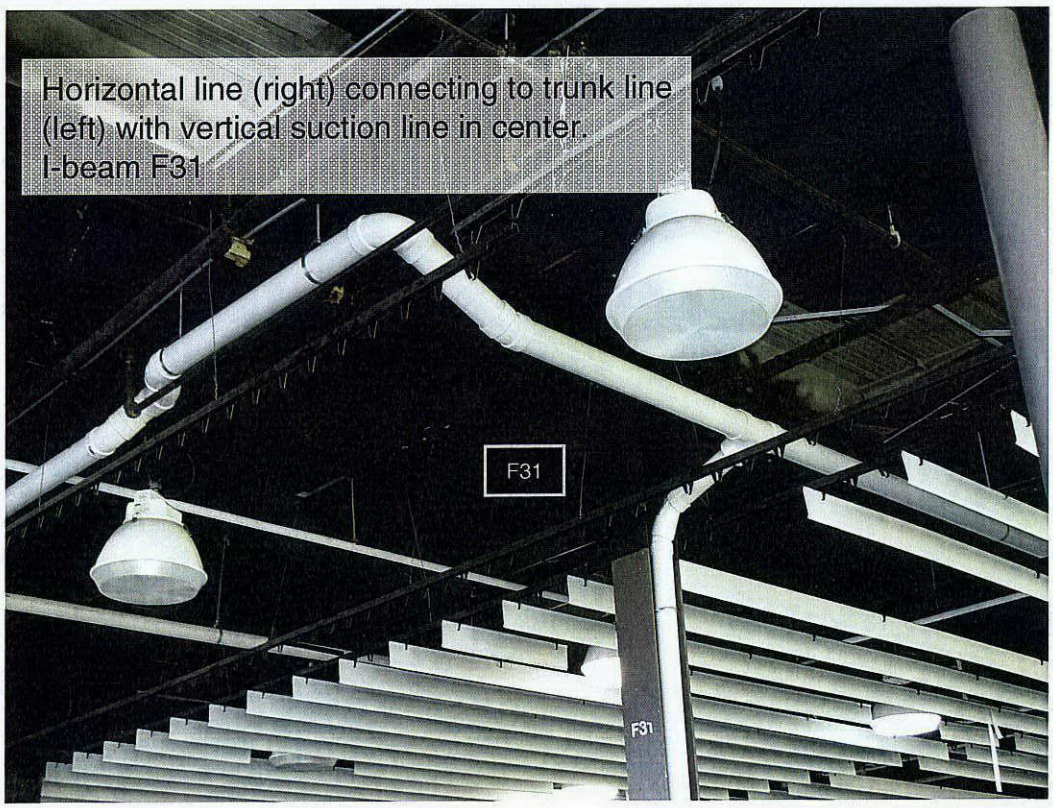
Suction pipe strapped
to I-beam support
Column B23. C25 in
background

SSDS Installation
950 Danby Rd

S&W
REDEVELOPMENT



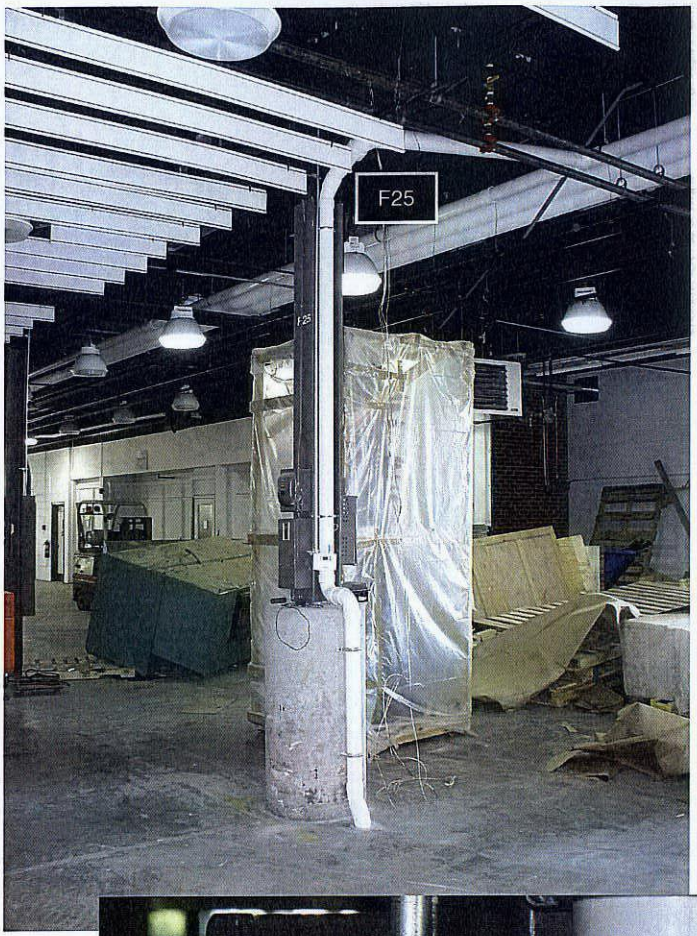
High-pressure blower mounted on roof



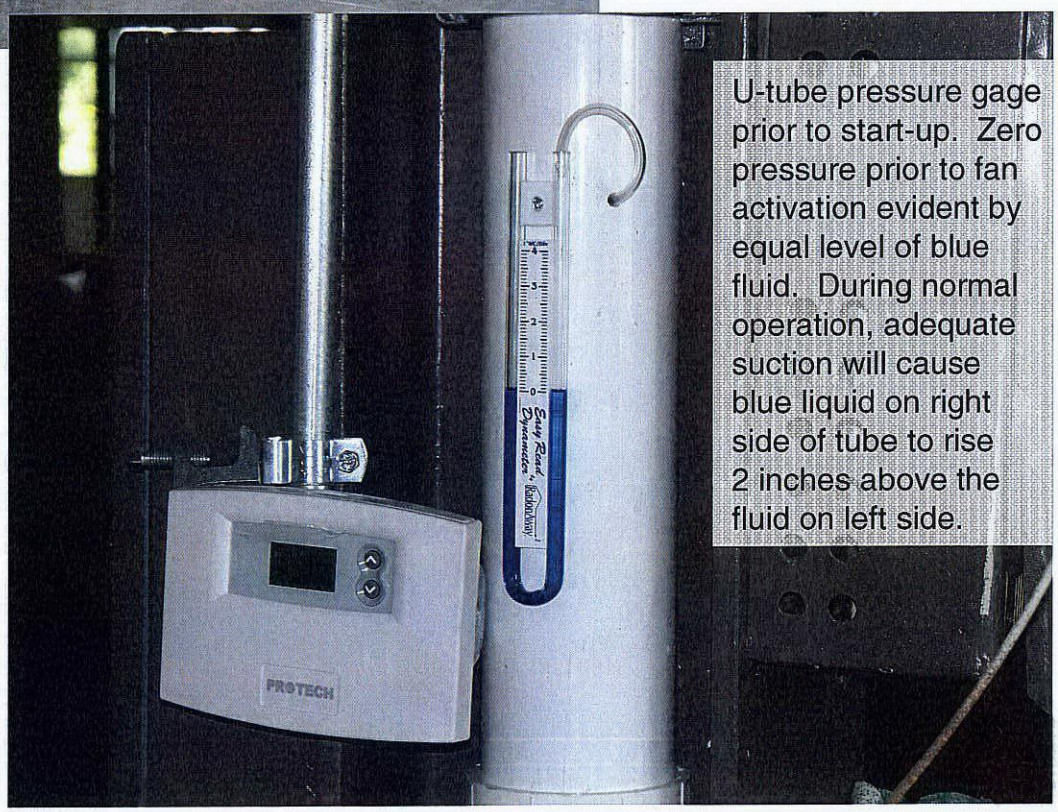
Horizontal line (right) connecting to trunk line (left) with vertical suction line in center. I-beam F31

SSDS Installation
950 Danby Rd

S&W
REDEVELOPMENT



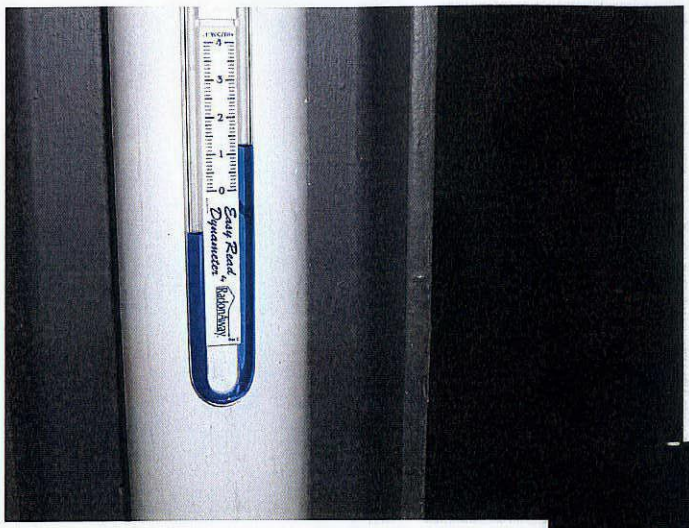
Suction pipe strapped to I-beam support Column F25

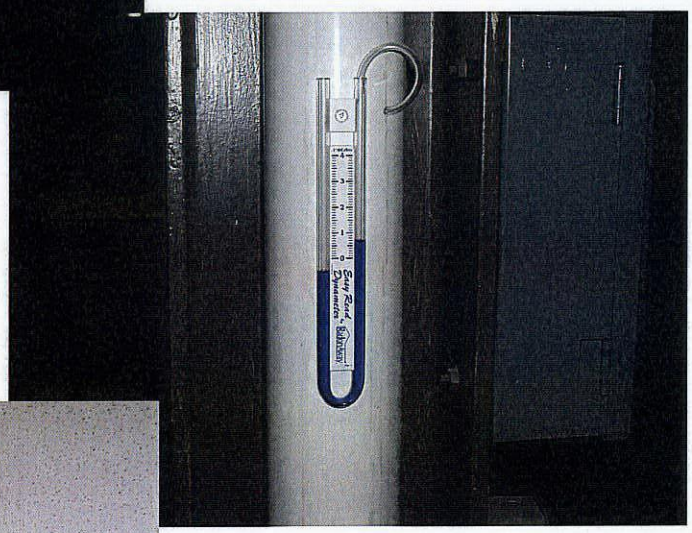


U-tube pressure gage prior to start-up. Zero pressure prior to fan activation evident by equal level of blue fluid. During normal operation, adequate suction will cause blue liquid on right side of tube to rise 2 inches above the fluid on left side.

SSDS Installation
950 Danby Rd

S&W REDEVELOPMENT





Pressure gauges after SSDS start up showing sub-slab pressure ranging from approximately -0.07 to -0.12 inches water column, which meets the performance objective is -0.002 inches water column or less. The above readings are typical for the suction risers.

SSDS Installation
950 Danby Rd

S&W
REDEVELOPMENT

SSDS Installation
950 Danby Rd

S&W
REDEVELOPMENT

Looking west-northwest at the alarm system for the SSDS. The alarm system is integrated into the building's existing Automated Logic Control (ALC) system. The alarm system consists of both a pressure switch and a current switch. Loss of power or negative pressure activates the alarm, causing a text message and email to be sent to maintenance personnel.

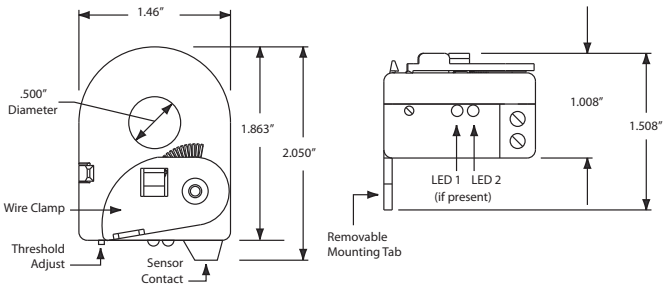
APPENDIX C

MITIGATION SYSTEM COMPONENTS SPECIFICATIONS

AC CURRENT SWITCHES

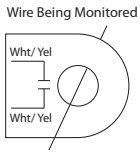
RIBXK Series

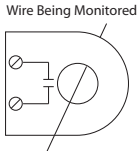
Enclosed Self-Powered Solid Core AC Sensors



RIBXKA

RIBXKTF





c UL us LISTED

Made in USA
Meets "Buy American" of ARRA 2009

CURRENT SENSORS

SPECIFICATIONS

FUNCTIONAL DEVICES CERTIFIED FOR USE WITH **ECMs**

Operating Temperature: -30 to 140° F
Humidity Range: 5 to 95% (noncondensing)
Max Sense Voltage: 600 Vac
Approvals: UL Listed, UL916, UL864, C-UL, California State Fire Marshal
Mounting/Installation: Removable mounting tab provided. The wire clamp locks against the wire being monitored, securing the unit in place.
Sensor Contact Output: Current below threshold: Open ; Current above threshold: Closed

Sensor Contact:
- Solid State Contact
- When sensor contact is off (open), leakage <30 uA @ 30Vac/dc
- When sensor contact is on (closed), voltage drop
  < .3 Vac/dc @ .1 Amp
  < 1.6 Vac/dc @ .4 Amp

RIBXK SERIES SELECTION GUIDE

Model#	Sensing Range	Type	Threshold	Sensor Contact Type	Switching Voltage Range	Maximum Switching Current	Sensor Contact Termination	LED 1	LED 2
RIBXKF	.25-150 Amp	Solid Core	Fixed, .25 Amp	Solid State Switch SPST	30 Vac/dc	.4 Amps Max	Wht/Yel 16″ 18 AWG Wire Leads		
RIBXKTF	.25-150 Amp	Solid Core	Fixed, .25 Amp	Solid State Switch SPST	30 Vac/dc	.4 Amps Max	Terminal Strip, Accepts #14-22 AWG Wire		
RIBXKA	.50-150 Amp	Solid Core	Adjustable	Solid State Switch SPST	30 Vac/dc	.8 Amps Max	Wht/Yel 16″ 18 AWG Wire Leads	Over Trip Point	Under Trip Point
RIBXKTA	.50-150 Amp	Solid Core	Adjustable	Solid State Switch SPST	30 Vac/dc	.8 Amps Max	Terminal Strip, Accepts #14-22 AWG Wire	Over Trip Point	Under Trip Point

D20 Beck Adjustable Pressure Switch

Zone Pressure Sensors

Rev. 04/20/21

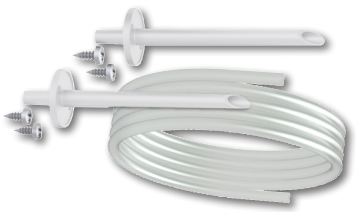
Features & Options

- Designed for Monitoring Overpressure, Vacuum and Differential Pressure of Air or Other Non-Combustible, Non-Aggressive Gases
- Ideal for Air Filter and Fan Status Monitoring, Industrial Cooling-Air Circuit Monitoring, Duct Air Flow Monitoring, Air Flow Proving for Heater Control and Frost Prevention Circuits
- Field-Adjustable Dial to Select Any Trip Value Within Each Pressure Range

Beck Adjustable Pressure Switch

Total Probes and Tubing

Two static pressure probes and two meters of pressure tubing are available as an accessory.



Specifications

Burst Pressure: 40” WC (10 kPa) for all pressure ranges

Medium: Air, non-combustible and non-aggressive gases

Operating Temperature: -4° to +185°F (-20 to +85°C)

Storage Temperature: -40°F to +185°F (-40 to +85°C)

Accuracy:
Deviation: ≤±15%, min. ±0.04” WC (±10 Pa) • Drift: ≤±15%

Diaphragm Material:
Silicone, tempered at 392°F (200°C), free of gas emissions

Pressure Connections:
2 plastic pipe connection pieces, external dia. 0.24” (6mm)
Marked “+” to higher pressure, marked “-” to lower pressure

Body and Cover Material: UV-resistant plastic

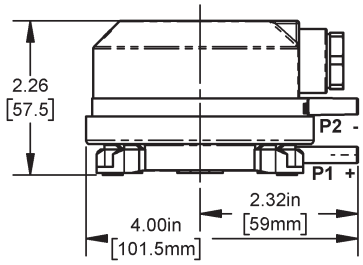
Mechanical Working Life: Over 1,000,000 switching operations

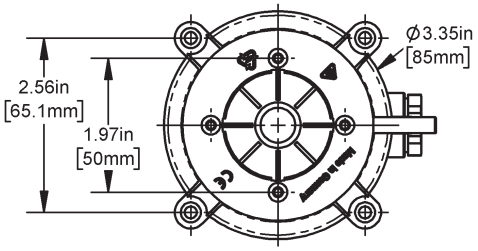
Electrical Rating:
0.4A Inductive, 250 VAC • 1.5A Resistive, 250 VAC
0.8A Inductive, 125 VAC • 3.0A Resistive, 125 VAC
0.4A, 30VDC • 0.1A, 24 VDC

Electrical connections:
1/4” Spade Plug (AMP flat plug), 0.25” x 0.03” (6.3 x 0.8mm) in accordance with DIN 46244 or push-on screw terminals included

Protection Category: IP54 or IP65

CE Conformity:
Low Voltage Directive 2014/35/EU; RoHS Directive 2011/65/EU





BAPI
Building Automation Products, Inc. • 750 North Royal Avenue, Gays Mills, WI 54631 USA
Tel: +1-608-735-4800 • Fax: +1-608-735-4804 • Email: sales@bapihvac.com • Web: www.bapihvac.com

Ordering Information

Part Number	Pressure Range	Accuracy/ Repeatability	Encl. Rating
BA/APSW1	0.08 to 1.2” WC / 20 to 300 Pa	±5% / min. ±0.02” WC (±5 Pa)	IP54
BA/APSW2	0.2 to 2” WC / 50 to 500 Pa	±2.5% / min. ±0.02” WC (±5 Pa)	IP54
BA/APSW3	0.8 to 4” WC / 200 to 1,000 Pa	±1% / min. ±0.02” WC (±5 Pa)	IP54
BA/APSW4	0.12 to 1.6” WC / 30 to 400 Pa	±5% / min. ±0.02” WC (±5 Pa)	IP54
BA/APSW5	2 to 10” WC / 500 to 2500 Pa	±1%	IP54
BA/APSW6	0.8 to 4” WC / 200 to 1,000 Pa	±1%	IP54
BA/APSW1-65	0.08 to 1.2” WC / 20 to 300 Pa	±5% / min. ±0.02” WC (±5 Pa)	IP65
BA/APSW2-65	0.2 to 2” WC / 50 to 500 Pa	±2.5% / min. ±0.02” WC (±5 Pa)	IP65
BA/APSW3-65	0.8 to 4” WC / 200 to 1,000 Pa	±1% / min. ±0.02” WC (±5 Pa)	IP65
BA/APSW4-65	0.12 to 1.6” WC / 30 to 400 Pa	±5% / min. ±0.02” WC (±5 Pa)	IP65
BA/APSW5-65	2 to 10” WC / 500 to 2500 Pa	±1%	IP65
BA/APSW6-65	0.8 to 4” WC / 200 to 1,000 Pa	±1%	IP65
BA/APSW-ACC	2 Total Pressure Tubes and 2 Meters of Pressure Tubing		

Gray shaded items follow the Buy and Resale Multiplier.

Flex-Tube® Manometer

Installation & Operating Instructions

1220/1230 Series
U-Tube and Well-Type Manometers

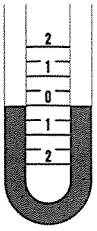


Fig. 1

With both ends of the tube open, the liquid is at the same height in each leg.

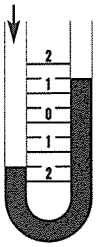


Fig. 2

The difference in height, "h", which is the sum of the readings above and below zero, indicates pressure.

Fig. 3

The difference in height, "h", which is the sum of the readings above and below zero, indicates the amount of vacuum.

Measuring Pressure, Vacuum and Differential Pressure with Dwyer® Manometers

Dwyer manometers are available in two different styles. The W/M models use either water for readings in inches of water or mercury for readings in inches of mercury. The D models use Dwyer .826 specific gravity red gage oil for readings in inches of water. The scales on the two styles have different lengths, so it is important to use the correct fluid.

Mounting Dwyer U-Tube Manometers

1221 - Mount to a vertical surface through holes in the scale.

1222 - Attach magnets to steel surface or remove magnets and mount through holes in scale.

1223 - Attach magnets to steel surface or through the hole in safety trap housing.

1227 - Because of angled connections, 1227 must be filled with indicating tube at an angle. After filling, check zero in vertical position. Clean all oil from the exterior of the unit to prevent cracking of the backplate.

Note: Read vertical range on the right leg with the manometer vertical. Incline the manometer to zero for low range reading.

Mounting Dwyer Well Manometers

1230 - Mount to a vertical surface with flat-head screws through the holes in the scale.

1235 - Mount behind panel cutout to show only the tube and scale. Attach by drilling holes through the manometer's back-plate and panels. Make the panel cutout for the length and width of the tube and scale.

DWYER INSTRUMENTS, INC.
P.O. BOX 373 • MICHIGAN CITY, IN 46361, U.S.A.
Phone: 219/879-8000 www.dwyer-inst.com
Fax: 219/872-9057
e-mail: info@dwyer-inst.com

Filling U-Tube Manometers 1221 - 1222

Open both fittings to atmosphere. Slide scale to mid-point of travel. Add liquid to zero on scale. Clean all oil from the exterior of the unit to prevent cracking of the backplate.

Filling 1223 - 1230 and 1235 Manometers

Remove large fitting from well using a 3/4" open-end wrench. Also remove cork, disc, and O-ring. Be sure the other side is vented to atmosphere. Adjust zero to middle of travel. Add fluid to well up to the zero on scale. Replace cork, disc, and O-ring before replacing fitting. Clean all oil from the exterior of the unit to prevent cracking of the backplate on 1223 models. To order red gage oil, order part # A-101 (3/4 oz.) To order fluorescein green color concentrate, order part # A-126 (3/4 oz.)

Operation of 1221, 1222 and 1223 Manometers

Connect either side to pressure or vacuum, leaving the other side open to atmosphere. Add together the readings above and below zero.

It is normal for the two sides to have different readings and has no effect on accuracy. For differential pressure, connect both the high and low fittings. Add the readings above and below zero on the scale.

Operation of 1230 and1235 Manometers

Positive Pressure: Connect the well reservoir fitting to the pressure source, leaving the other side open to atmosphere.

Negative Pressure: Connect the top fitting to vacuum source, leaving well side open to atmosphere.

Differential Pressure: Connect higher pressure to well reservoir fitting and lower pressure to upper fitting.

Note: When finished, close fitting to prevent spilling or evaporation.

Maintenance

With proper care, Dwyer Flex-Tube® Manometers will continue to give accurate readings. If cleaning is needed, remove fittings, drain fluid, and rinse with mild soap and water. A cleaning brush (part #A-366) may be used to remove oxidation.

Avoid harsh soaps and solvents which may damage manometer and void warranty.

When replacing O-rings, apply a thin coat of petroleum jelly to assure a good seal. Do not coat O-ring used in the overpressure safety trap.

Avoid using fluids other than those specified. Corrosive fluids may damage the manometer.

If return is needed contact customer service to receive a return goods authorization number before shipping.

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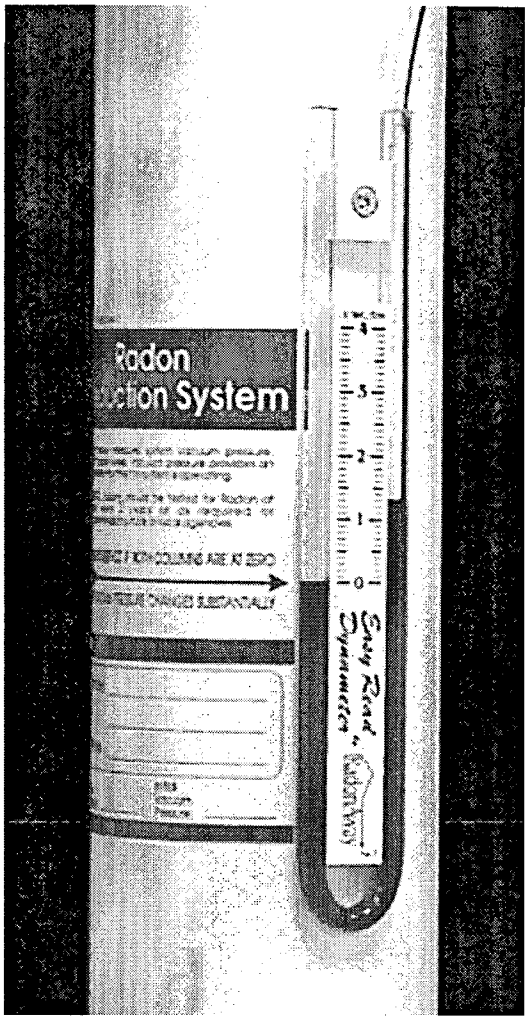
P.O. BOX 373 • MICHIGAN CITY, IN 46361, U.S.A.
Phone: 219/879-8000 www.dwyer-inst.com
Fax: 219/872-9057
e-mail: info@dwyer-inst.com

RadonAway



Model #	Easy Read Dynameter
Part #	50006-1
Brand:	RadonAway
Features	Reads 0 - 4" WC, non-toxic fluid, adjustable zero, includes write-on radon system label

For additional information regarding RadonAway products or for order inquiries, **info@radonaway.com**.

RadonAway
Attention: Sales & Information
3 Saber Way
PO Box 8244
Ward Hill, MA 01835
Phone: (800) 767-3703
Fax: (978) 521-3964

cincinnati fan
OEM and Industrial Air Handling Specialist

FAN SELECTION And SPECIFICATIONS

Your Cincinnati Fan Representative:
DAVE GRAHAM
CHASE AIR SYSTEMS, LLC.
966 BROADWAY
ALBANY NY 12204
(518) 449-7155 Phone
(518) 449-7156 Fax
DGRAHAM@RKCHASE.COM

Tuesday, August 07, 2007

Job Name: Radon Home Services
Reference: Quote: 100471

Operating Requirements

Volume, ACFM	800
Static Pressure, in. wg	10.0
Density, lb./ft.³	0.0767
Operating Temperature, °F	70
AMCA Arrangement No.	4
Motor Frequency, Hz	60
Start-Up Temperature, °F	70

Fan Selection and Specifications

Model	HPD
Fan RPM	3,500
Suggested Motor RPM	3,500
Actual Flow, ACFM	816
Actual SP, in. wg	10.3893
Percentage of Peak SP	53.4%
Wheel Description	17 X 1.5625
Wheel Width, %	100%
Wheel Diameter, in.	17.00
Number of Blades	9
WR², lb. - ft.²	
Tip Speed, ft./min.	15,577
Inlet Diameter, in.	5.00
Inlet Area, ft.²	0.12
Outlet Dimensions	3.00 X 3.00 in. sq.
Outlet Area, ft.²	0.06
Outlet Velocity, ft./min.	13,047
Fan BHP	4.10
Suggested Motor HP	5.0
Static Efficiency, %	32.5%
Cold Start BHP	4.10
Construction Class	N/A
Maximum Wheel RPM	3,790
Maximum Shaft RPM	N/A

Temperature Notes:
Standard fan limited to 200°F.

Construction Notes:
Maximum Motor Frame: 184T

Available Frame Size and Weights (without motor):
Frame S6-184T 123 lbs.

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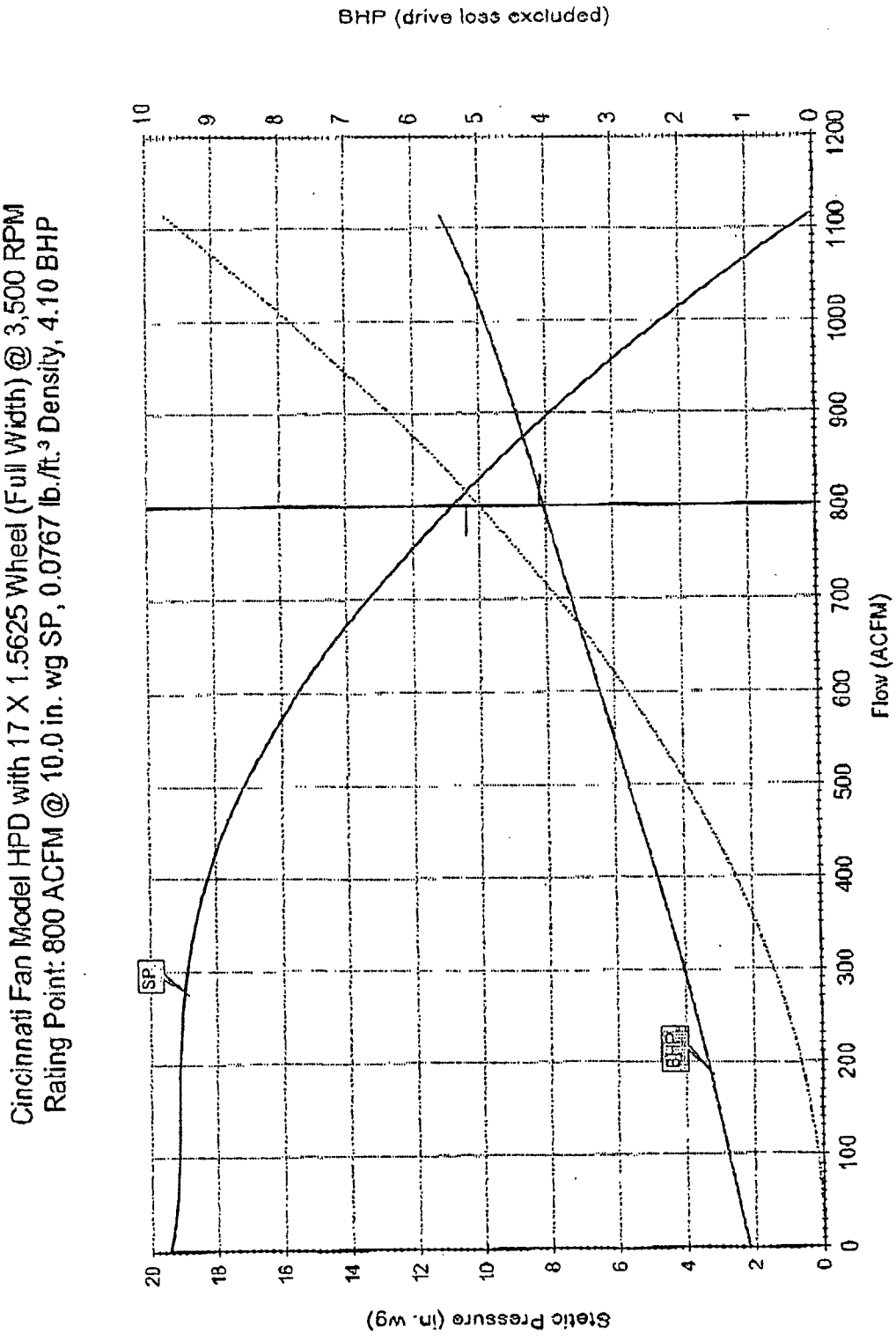
Cincinnati Fan Model HPD with 17 X 1.5625 Wheel (Full Width) @ 3,500 RPM
Rating Point: 800 ACFM @ 10.0 in. wg SP, 0.0767 lb./ft.³ Density, 4.10 BHP
BHP (drive loss excluded)
Static Pressure (in. wg)
Flow (ACFM)
SP
BHP

cincinnati fan — OEM and Industrial Air Handling Specialist

FAN SOUND DATA

Your Cincinnati Fan Representative:
DAVE GRAHAM
CHASE AIR SYSTEMS, LLC.
966 BROADWAY
ALBANY NY 12204
(518) 449-7155 Phone
(518) 449-7156 Fax
DGRAHAM@RKCHASE.COM

Tuesday, August 07, 2007

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Operating Requirements

Volume, ACFM	800
Static Pressure, in. wg	10.0
Density, lb./ft.³	0.0767
Operating Temperature, °F	70
AMCA Arrangement No.	4
Motor Frequency, Hz	60
Start-Up Temperature, °F	70

Fan Selection and Specifications

Model	HPD
Fan RPM	3,500
Wheel Description	17 X 1.5625
Wheel Width, %	100%
Wheel Diameter, in.	17.00
Inlet Diameter, in.	5.00
Outlet Velocity, ft./min.	13,047
Fan BHP	4.10
Static Efficiency, %	32.6%
Cold Start BHP	4.10
Construction Class	N/A

Fan Sound Data

Lp = Sound Pressure Level at a specific distance from the fan. Measured in decibels (dB) or A-weighted decibels (dB(A)) re 0.0002 microbar.
Lw = Sound Power Level of the fan. Measured in decibels (dB) or A-weighted decibels (dB(A)) re 1E-12 watt.
dB = Decibel, ten times the logarithm (base 10) of the ratio of a value to a reference value.
dB(A) = A-Weighted decibel. A-weighting corrects the spectrum for human hearing response.

Sound Directivity Factor, Q: 2 - Hemispherical radiation
Fan Inlet Ducting: Ducted
Fan Outlet Ducting: Not Ducted

Calculated Octave Band Sound Data (dB)

Quantity	63 Hz	125 Hz	250Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000Hz
Lw Total	85	90	94	95	97	94	90	87
Lw Inlet	82	87	91	92	94	91	87	84
Lw Outlet	82	87	91	92	94	91	87	84
Lp Total	75	80	84	85	87	84	80	77
Lp inlet	64	69	73	74	76	73	69	66
Lp outlet	75	80	84	85	87	84	80	77

Total A-weighted Sound Pressure Level, Lp dB(A): 91 at 3.0 feet from fan
Total A-weighted Sound Power Level, Lw dB(A): 101
Blade Passage Frequency, Hz: 525

- Sound Pressure values are calculated based upon assumed environmental conditions. Actual values may vary for specific installations due to environmental factors (other noise sources, walls, duct design, etc.)
- Noise from the driver is not included in these data.
- Sound Pressure Level calculations assume free field propagation occuring outdoors.
- Duct End Corrections applied (AMCA 300-85 Appendix C).

CFSWin Version: 7.2.2713.25801 Database Version: 7.2.1

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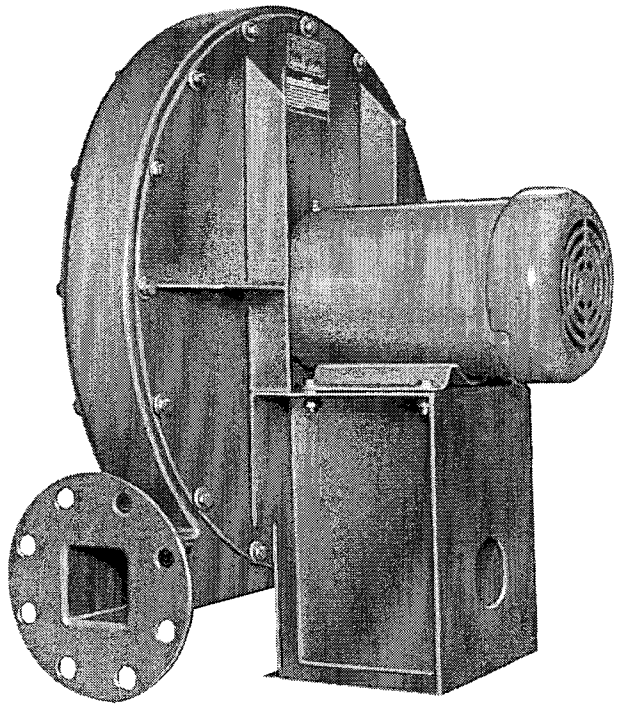


HP
SERIES I

HIGH PRESSURE BLOWERS

7697 Snider Road, Mason, OH 45040-9135
Telephone: 513-573-0600

Visit us at www.cincinnatifan.com for more information.

Cat. No. HP-I-107
Supersedes HP-1-803

cincinnati fan

A Company That Stands Behind Its Product

Since the founding of **Cincinnati Fan** in 1956, the company's mission has been to provide quality products at competitive prices, backed by dependable service.

This mission is carried out by specializing in the market for industrial air handling products up to 125 HP. But specialization does not mean the product line is small. **Cincinnati Fan** offers a wide variety of standard and customized products, production flexibility, and customer responsiveness.

Cincinnati Fan has over 170 experienced sales engineers across the U.S. and Canada ready to serve your air handling needs.

Cincinnati Fan can provide:

- Technical evaluation for correct performance conditions.
- Review of air stream and ambient conditions that require special attention.
- Selection of proper components to meet required design specifications.
- Selection of proper accessories.
- System analysis for proper fan design.

Cincinnati Fan operates in a modern facility specifically designed for world class manufacturing enabling us to build standard products to order, including accessories, and ship within 10 working days.

With support like this, you can be sure your **Cincinnati Fan** product will be well-built and will provide maximum dependability and longevity.

Visit us at www.cincinnatifan.com for more information.

SPECIFICATIONS FOR HP SERIES I BLOWERS

Radial bladed pressure blowers shall be Cincinnati Fan HP, Series I, Model _____, Arrangement _____ Capacity: _____ CFM, _____ Static Pressure at standard conditions. Operating conditions: _____ °F, _____ Ft. Altitude.

Wheels shall be 319 cast aluminum with integral cast hub and blades. Wheels shall be dynamically balanced to assure smooth operation. Fan motor and bearing vibration levels shall not exceed 1.5 mils displacement at 3450 RPM. Shafts shall be turned, ground and polished steel (or stainless steel). All fan shafts shall receive a rust preventive coating prior to shipment. All fans shall be test run at factory before shipping.

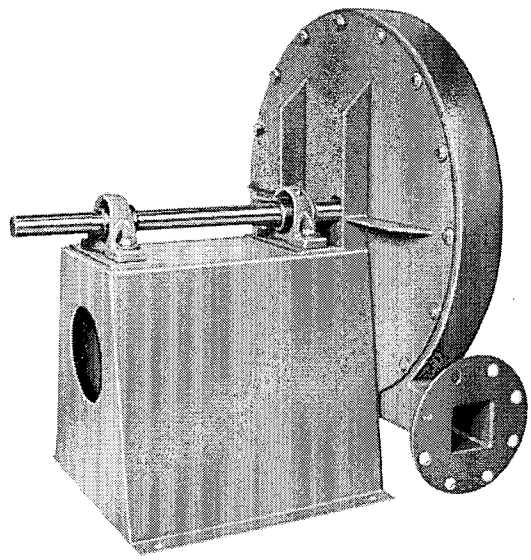
Construction gauges shall be as shown in Cincinnati Fan's HP, Series I catalog. The blower housing shall be continuously welded and supported to prevent pulsation at all conditions. Fan bearings shall be grease-lubricated, heavy-duty, self-aligning ball bearings mounted in cast iron pillow blocks. V-belt drives shall be selected for a minimum of 1.3 times nominal horsepower.

All parts in contact with airstream shall be standard steel, aluminum or stainless steel as specified.

Before painting, steel parts shall be cleaned by detergent wash, phosphatized and painted with oven cured gray enamel.

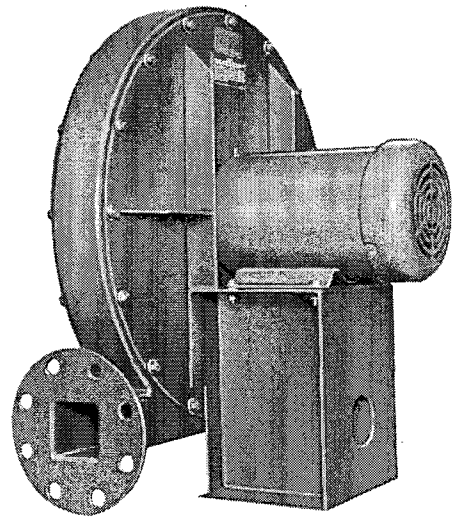
The following accessories shall be included: (See page 4 for available accessories).

THREE STANDARD ARRANGEMENTS



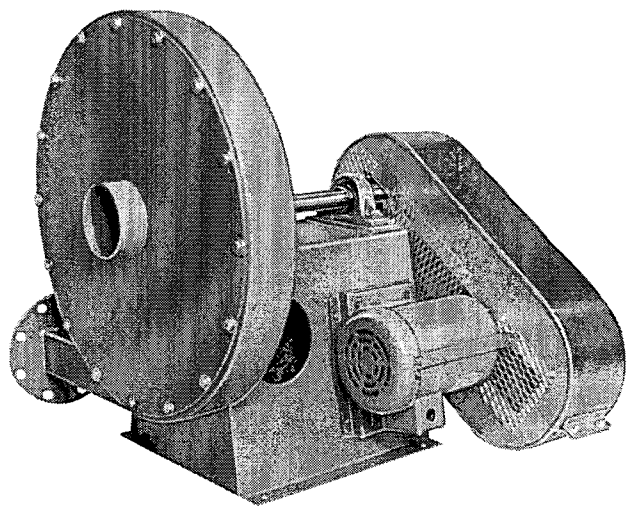
ARRANGEMENT 1 (V-BELT DRIVE)

- Motor not mounted on bearing base.
- Turned, ground and polished shafting assures smooth operation. A rust preventive coating is applied prior to shipment.
- Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance.
- Maximum temperature of standard design: 200°F; high temperature design up to 400°F.



ARRANGEMENT 4 (DIRECT DRIVE)

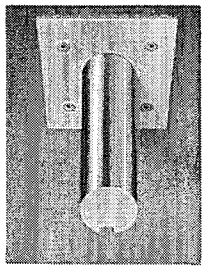
- Motor mounted on motor base.
- Wheel mounted on motor shaft.
- Maximum temperature of standard design: 200°F; high temperature design not available.



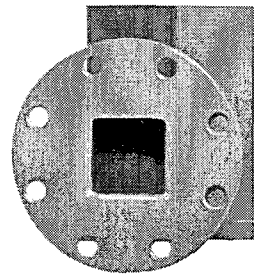
ARRANGEMENT 9 (V-BELT DRIVE)

- Motor mounted on an adjustable slide base on the side of the bearing base.
- Turned, ground and polished shafting assures smooth operation. A rust preventive coating is applied prior to shipment.
- Heavy-duty, self-aligning ball bearings in relubricatable cast-iron pillow blocks. Bearings are selected for optimal performance.
- Maximum temperature of standard design: 200°F; high temperature design up to 400°F.

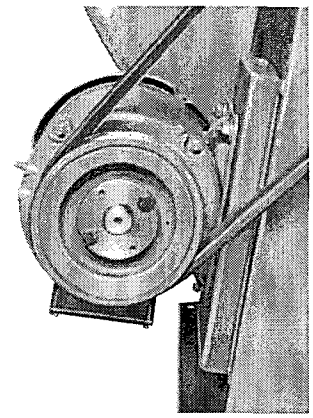
STANDARD FEATURES FOR ALL HP's



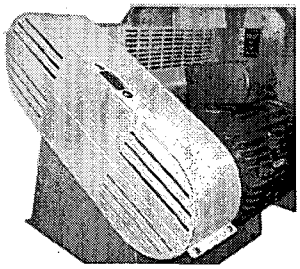
Teflon Shaft Seal



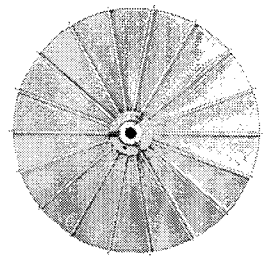
Discharge Flange
Standard ANSI-125/ASA-150 pound hole pattern furnished. See pages 10 or 11 for dimensions.



Motor Slide Base
(Arrangement 9 only)



Belt Guard
(Arrangement 9 only)
Painted safety yellow.

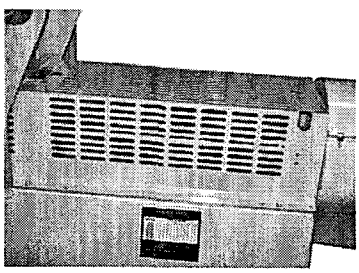


Cast Aluminum Wheel
(Non-Sparking)

+ PLUS +

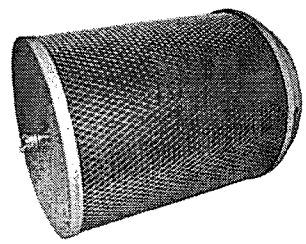
- Continuously welded fan housings with removable inlet and drive side plates.
- Blower housings are reversible and rotatable in 45° increments.
- All fans receive a mechanical run test to assure proper balance and alignment before shipping. Arrangements #1 and #9 (less motor) have drive-end key furnished.
- Fan shafts receive a rust preventative coating prior to shipment.
- Arrangement #1 fans offer easy field conversion to arrangement #9 by the addition of a motor slide base.
- Bearings are relubricatable, cast iron, pillow blocks sized for 150,000 hours average life under normal operating conditions. (Excessive belt tension will shorten bearing life).

OPTIONAL ACCESSORIES



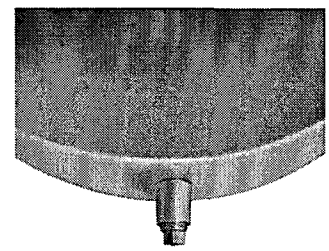
Shaft Guard

Shaft guard available on arrangement 1 and 9. Covers bearings and shaft between fan housing and belt guard.
Painted safety yellow.



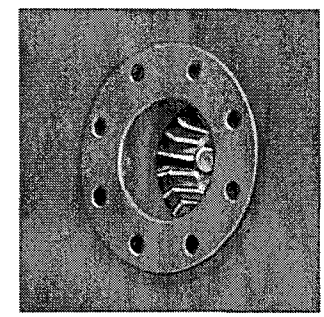
Inlet Filter

Wire mesh or paper cartridge available.



Drain Connection

¾" pipe coupling welded to lowest point of housing.



Inlet Flange

Standard ANSI-125/ASA-150 pound hole pattern furnished. See page 10 for dimensions.

SPARK-RESISTANT CONSTRUCTION

Type A: All parts in contact with airstream are of nonferrous material. Consult factory.

Type B: The standard wheels are cast aluminum. With the addition of an aluminum ring around the housing shaft opening, the fan will be AMCA type "B" spark resistant. **Maximum Temperature 200°F.**

⚠ WARNING

The use of aluminum or aluminum alloys in the presence of steel which has been allowed to rust requires special consideration. Research by the U.S. Bureau of Mines and others has shown that aluminum impellers rubbing on rusty steel may cause high intensity sparking.

The use of the above Standard in no way implies a guarantee of safety for any level of spark resistance. Spark resistant construction also does not protect against ignition of explosive gases caused by catastrophic failure or from any airstream material that may be present in a system.

TEMPERATURE - ALTITUDE CONVERSIONS

Standard Construction: All arrangements suitable to 200°F.
201°- 300°F. Construction: Standard fan with steel wheel. Arrangements 1 and 9 only.
301°- 400°F. Construction: Standard fan with steel wheel, heat slinger and slinger guard. Arrangements 1 and 9 only.

Fan performance tables are developed using standard air which is 70°F., 29.92" barometric pressure and .075 lbs. per cubic foot. Density changes resulting from temperature or barometric pressure variations (such as high altitudes) must be corrected to standard conditions before selecting a fan based on standard performance data.

Temperature and/or altitude conversion factors are used in making corrections to standard conditions.

TEMPERATURE - ALTITUDE CONVERSION FACTORS

AIR TEMP DEG. F.	ALTITUDE IN FEET ABOVE SEA LEVEL										
	0	1000	2000	3000	4000	5000	6000	7000	8000	9000	10000
0°	.87	.91	.94	.98	1.01	1.05	1.09	1.13	1.17	1.22	1.26
40°	.94	.98	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.32	1.36
70°	1.00	1.04	1.08	1.12	1.16	1.20	1.25	1.30	1.35	1.40	1.45
80°	1.02	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48
100°	1.06	1.10	1.14	1.19	1.23	1.28	1.33	1.38	1.43	1.48	1.54
120°	1.09	1.14	1.18	1.23	1.28	1.32	1.38	1.43	1.48	1.53	1.58
140°	1.13	1.18	1.22	1.27	1.32	1.37	1.42	1.48	1.54	1.58	1.65
160°	1.17	1.22	1.26	1.31	1.36	1.42	1.47	1.53	1.59	1.64	1.70
180°	1.21	1.26	1.30	1.36	1.41	1.46	1.52	1.58	1.64	1.70	1.75
200°	1.25	1.29	1.34	1.40	1.45	1.51	1.57	1.63	1.69	1.75	1.81

EXAMPLE:

Select a belt driven HPE to deliver 500 CFM at 18" SP at 160°F., and 7000' altitude.

STEP 1. From the table, conversion factor is 1.53.

STEP 2. Correct static pressure is: 1.53 x 18" SP = 27.5" SP at standard conditions.

STEP 3. Check HP catalog for 500 CFM at 27.5" SP. We select a belt driven HPE and interpolation gives 3463 RPM and 5.61 BHP.

STEP 4. Correct the BHP for the lighter air: 5.61 ÷ 1.53 = 3.67 BHP. A 5 HP motor will suffice at 160° F., and 7000' but not at standard conditions. Special motor insulation may be required above 3500 feet altitude. Consult factory.

SUCTION PRESSURE CORRECTIONS

Rarefication: When air is pulled into a blower inlet (negative pressure) the air molecules are "stretched out", or rarefied, and become less dense than at the blower discharge where the air is compressed.

Catalog ratings may be used directly, without correction, for static pressures defined at the fan discharge. For static pressures defined at the fan inlet (i.e., negative pressures), a correction is typically only made for inlet suction pressures greater than 15" W.G.

The table at the right gives corrected static pressures for suction pressure (rarefication). These corrected static pressures are for standard air (70°F., 29.92" Hg barometric pressure and .075 lbs. per cubic foot density) at the blower inlet.

If the inlet air temperature and/or altitude are different, make those corrections as shown above and then correct for rarefication.

Suction Pressure in Inches W.G.	Corrected Static Pressure
16	16.7
18	18.8
20	21.0
22	23.3
24	25.5
26	27.8
28	30.1
30	32.4

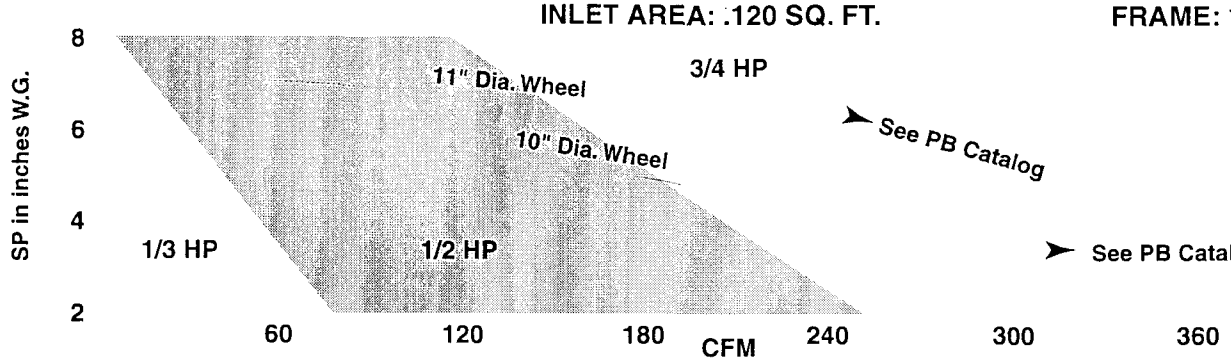
DIRECT DRIVE RATINGS @ 3450 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level
Performance shown is for fans with inlet and outlet ducts

Model HPA

OUTLET AREA: .063 SQ. FT.
INLET AREA: .120 SQ. FT.

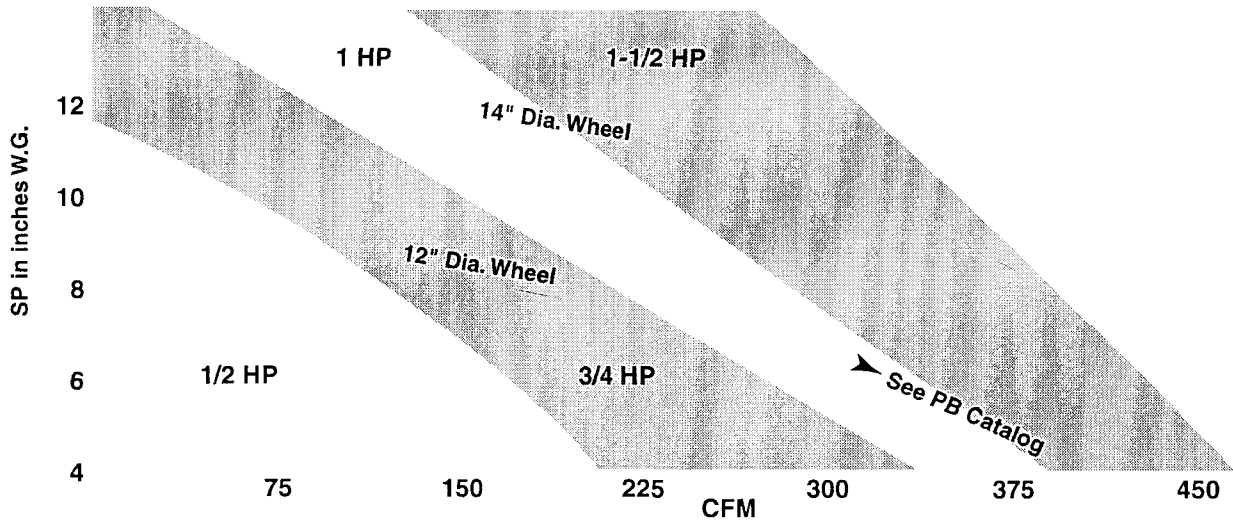
MAXIMUM MOTOR
FRAME: 143T



Model HPB

OUTLET AREA: .063 SQ. FT.
INLET AREA: .120 SQ. FT.

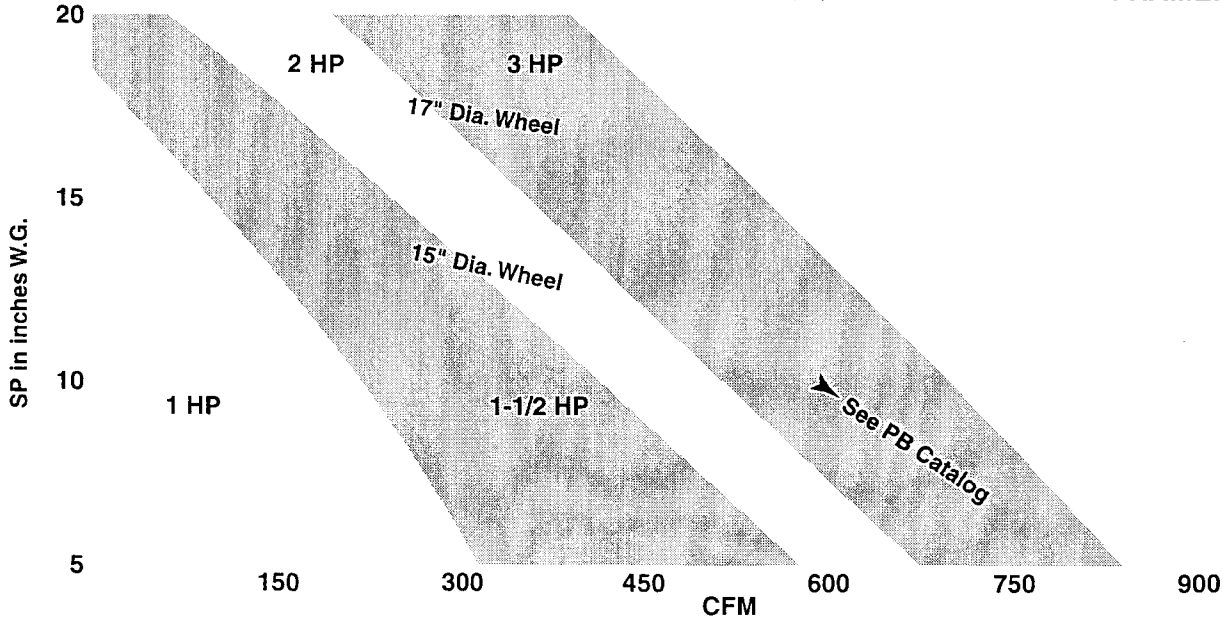
MAXIMUM MOTOR
FRAME: 145T



Model HPC

OUTLET AREA: .063 SQ. FT.
INLET AREA: .120 SQ. FT.

MAXIMUM MOTOR
FRAME: 184T



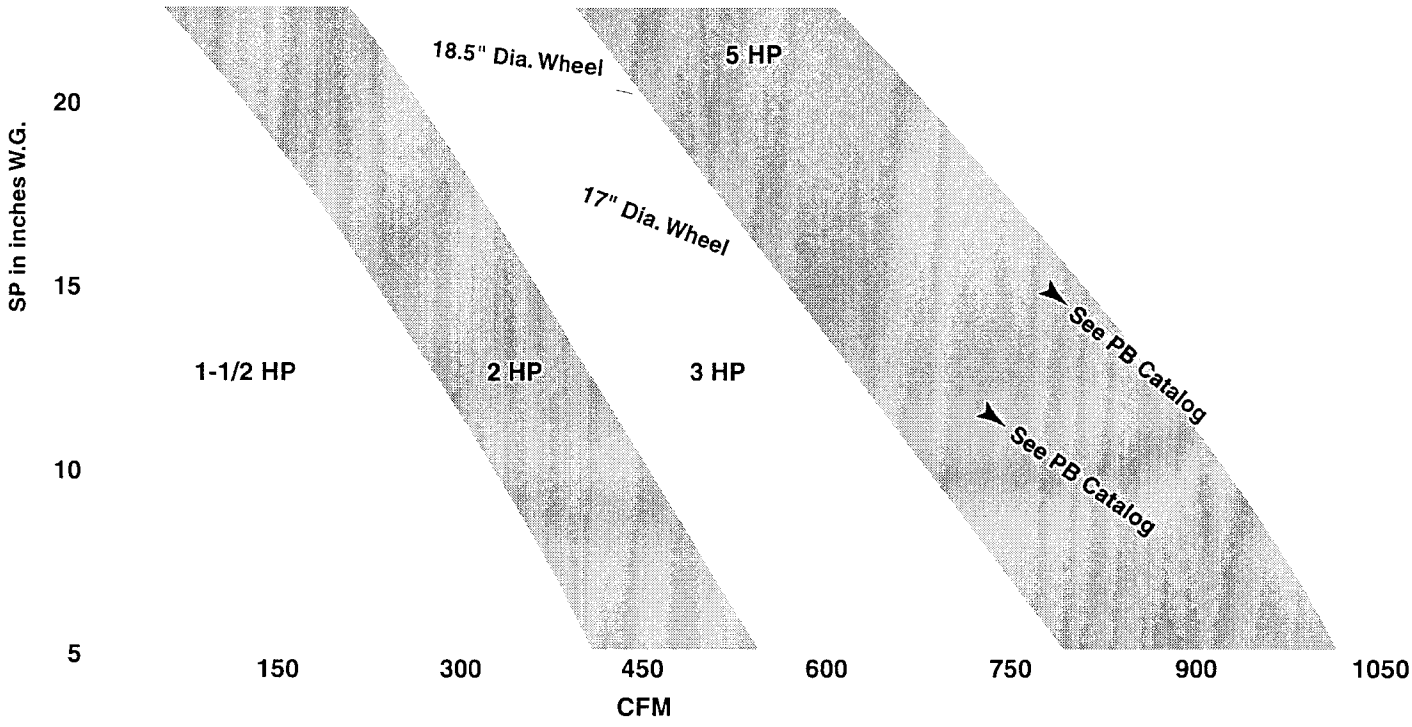
DIRECT DRIVE RATINGS @ 3450 RPM

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level
Performance shown is for fans with inlet and outlet ducts

Model HPD

OUTLET AREA: .063 SQ. FT.
INLET AREA: .120 SQ. FT.

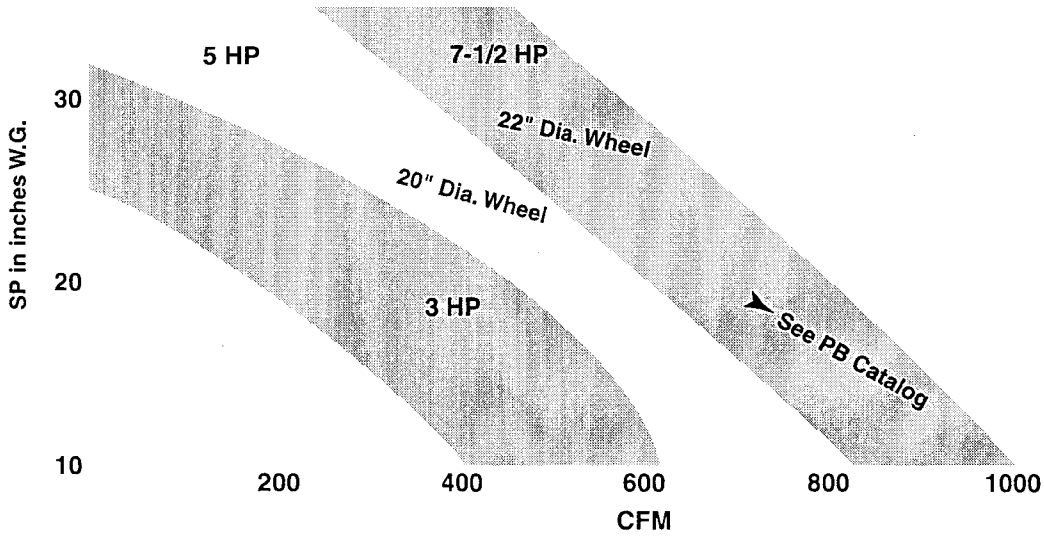
MAXIMUM MOTOR
FRAME: 184T



Model HPE

OUTLET AREA: .063 SQ. FT.
INLET AREA: .120 SQ. FT.

MAXIMUM MOTOR
FRAME: 215T



BELT DRIVE RATING TABLES

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

Model HPA

WHEEL DIA. 11.00" **OUTLET AREA .063 SQ. FT.** **INLET AREA .120 SQ.FT.**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100					2293	.15	2628	.20	2928	.26	3200	.33	3449	.41	3682	.49
150			2039	.14	2390	.21	2709	.29	2995	.37	3255	.45	3500	.52	3728	.60
200	1922	.15	2251	.22	2557	.29	2845	.37	3105	.46	3346	.55	3586	.67		
250	2202	.25	2526	.34	2784	.43	3035	.51	3266	.59	3500	.70				
300	2485	.38	2815	.49	3059	.60	3275	.70								
350	2777	.55	3094	.68												

Model HPB

WHEEL DIA. 14.00" **OUTLET AREA .063 SQ. FT.** **INLET AREA .120 SQ.FT.**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100					1775	.13	2038	.19	2270	.25	2480	.31	2673	.38	2852	.45	3020	.52	3180	.60
150			1582	.13	1863	.19	2106	.25	2324	.32	2522	.39	2709	.46	2889	.54	3057	.63	3217	.72
200	1461	.13	1741	.19	1984	.26	2210	.33	2419	.42	2609	.50	2789	.59	2957	.67	3116	.76	3266	.85
250	1674	.21	1933	.28	2152	.36	2350	.44	2536	.53	2718	.63	2892	.73	3054	.83	3206	.94	3352	1.05
300	1893	.31	2138	.41	2343	.50	2527	.59	2693	.68	2858	.79	3013	.89	3164	1.00	3315	1.12	3459	1.25
350	2120	.46	2352	.57	2545	.68	2720	.78	2881	.89	3030	1.00	3169	1.10	3312	1.23	3447	1.35		
400	2353	.64	2569	.78	2758	.90	2922	1.02	3075	1.14	3219	1.27	3355	1.39						
450	2591	.87	2793	1.03	2972	1.17	3134	1.31												
500	2833	1.16	3022	1.33	3192	1.49														
550	2879	1.30																		

CFM	11" SP		12" SP		13" SP	
	RPM	BHP	RPM	BHP	RPM	BHP
100	3331	.68	3476	.76	3615	.85
150	3369	.81	3514	.91	3653	1.00
200	3409	.95	3549	1.05	3688	1.15
250	3495	1.15	3631	1.26	3761	1.37
300	3596	1.37	3727	1.50	3853	1.63

Model HPC

WHEEL DIA. 17.00" **OUTLET AREA .063 SQ. FT.** **INLET AREA .120 SQ.FT.**

CFM	1" SP		2" SP		3" SP		4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100					1440	.13	1661	.18	1855	.24	2031	.31	2192	.38	2343	.45	2484	.53	2618	.61
200			1270	.14	1501	.20	1697	.27	1871	.34	2047	.43	2208	.51	2359	.61	2499	.70	2633	.80
300	1237	.18	1459	.26	1643	.33	1823	.43	1987	.52	2144	.61	2287	.71	2421	.80	2545	.90	2661	1.01
400	1508	.36	1690	.45	1855	.55	2011	.66	2147	.75	2285	.87	2416	.99	2539	1.12	2663	1.25	2782	1.37
500	1797	.63	1949	.75	2095	.87	2228	.99	2360	1.12	2485	1.26	2597	1.38	2703	1.49	2814	1.64	2923	1.80
600	2095	1.02	2231	1.17	2353	1.31	2474	1.46	2591	1.60	2699	1.74	2811	1.91	2917	2.07	3016	2.22	3109	2.36
700	2399	1.56	2522	1.74	2633	1.91	2737	2.07	2837	2.24	2945	2.41	3041	2.58	3133	2.74	3229	2.93		
800	2708	2.27	2818	2.47	2920	2.67	3017	2.86												

CFM	11" SP		12" SP		13" SP		14" SP		15" SP		16" SP		17" SP		18" SP		19" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	2745	.70	2866	.78	2983	.87	3095	.97	3203	1.07	3308	1.17	3409	1.27	3507	1.37	3603	1.48
200	2760	.90	2881	1.00	2998	1.11	3110	1.22	3218	1.33	3322	1.45	3424	1.57	3522	1.69	3618	1.81
300	2776	1.12	2897	1.25	3013	1.37	3126	1.50	3234	1.63	3338	1.77	3439	1.90	3538	2.04	3633	2.18
400	2895	1.50	3003	1.62	3107	1.75	3207	1.87	3303	2.00	3394	2.14	3481	2.28	3566	2.42	3649	2.57
500	3027	1.95	3126	2.11	3224	2.27	3324	2.43	3419	2.58	3512	2.74	3602	2.89				
600	3199	2.51	3287	2.65	3382	2.84												

Performance shown is for fans with inlet and outlet ducts.
BHP does not include drive losses

BELT DRIVE RATING TABLES

CFM and BHP at Static Pressure Shown • Ratings at 70°F., .075 Density, Sea Level

Model HPD

WHEEL DIA. 18.50" | **OUTLET AREA .063 SQ. FT.** | **INLET AREA .120 SQ.FT.**

CFM	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	1501	.16	1676	.22	1835	.28	1980	.34	2115	.41	2242	.48	2363	.55	2477	.63	2586	.71	2691	.78
200	1531	.26	1702	.33	1859	.40	2003	.48	2139	.56	2265	.64	2385	.73	2498	.82	2607	.91	2711	1.00
300	1645	.40	1789	.49	1926	.58	2057	.67	2181	.77	2297	.86	2412	.96	2525	1.07	2634	1.19	2738	1.30
400	1804	.61	1935	.72	2063	.83	2181	.95	2291	1.06	2398	1.18	2502	1.30	2600	1.42	2700	1.54	2795	1.67
500	1986	.90	2112	1.04	2227	1.17	2333	1.29	2439	1.42	2542	1.57	2640	1.71	2732	1.85	2820	2.00	2905	2.14
600	2189	1.29	2299	1.44	2409	1.59	2514	1.76	2613	1.92	2705	2.07	2793	2.21	2880	2.37	2969	2.54	3053	2.71
700	2451	1.90	2513	1.98	2604	2.14	2701	2.32	2795	2.50	2886	2.69	2974	2.88	3058	3.07	3137	3.24	3213	3.41
800	2759	2.81	2793	2.83	2828	2.85	2909	3.04	2989	3.22	3075	3.43	3158	3.63	3238	3.85	3318	4.07	3394	4.29

CFM	14" SP		15" SP		16" SP		17" SP		18" SP		19" SP		20" SP		21" SP		22" SP		23" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	2792	.87	2889	.96	2983	1.05	3075	1.14	3163	1.24	3249	1.33	3333	1.43	3415	1.53	3495	1.64	3573	1.74
200	2812	1.09	2909	1.19	3003	1.30	3095	1.41	3183	1.52	3269	1.63	3353	1.74	3435	1.86	3515	1.98	3593	2.10
300	2839	1.42	2935	1.38	3029	1.65	3120	1.77	3208	1.89	3294	2.02	3377	2.14	3459	2.27	3538	2.40	3616	2.53
400	2888	1.79	2977	1.92	3063	2.04	3147	2.17	3235	2.32	3321	2.46	3404	2.61	3485	2.76	3565	2.91	3643	3.06
500	2993	2.29	3076	2.44	3157	2.59	3236	2.74	3316	2.90	3394	3.05	3471	3.21	3546	3.36	3619	3.52	3690	3.68
600	3136	2.89	3215	3.06	3290	3.23	3364	3.41	3436	3.58	3508	3.76	3580	3.93	3650	4.11	3719	4.29	3786	4.47
700	3287	3.58	3336	3.77	3439	3.97	3513	4.17	3585	4.37	3654	4.57	3723	4.78	3789	4.98				
800	3469	4.51	3539	4.71	3607	4.91														

Model HPE

WHEEL DIA. 22.00" | **OUTLET AREA .063 SQ. FT.** | **INLET AREA .120 SQ.FT.**

CFM	4" SP		5" SP		6" SP		7" SP		8" SP		9" SP		10" SP		11" SP		12" SP		13" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	1262	.20	1405	.26	1537	.33	1660	.41	1775	.49	1883	.57	1985	.66	2083	.75	2176	.84	2265	.94
200	1331	.33	1462	.41	1588	.50	1707	.60	1817	.70	1921	.80	2019	.91	2112	1.01	2201	1.13	2287	1.24
300	1463	.53	1582	.64	1695	.75	1802	.86	1903	.98	1997	1.10	2087	1.22	2172	1.35	2256	1.48	2341	1.62
400	1623	.82	1738	.96	1843	1.10	1941	1.24	2033	1.38	2119	1.52	2203	1.67	2288	1.82	2368	1.98	2446	2.13
500	1799	1.20	1904	1.38	2005	1.55	2099	1.73	2188	1.90	2273	2.08	2353	2.25	2431	2.43	2505	2.61	2576	2.78
600	1989	1.72	2088	1.92	2181	2.13	2268	2.34	2353	2.54	2435	2.76	2513	2.97	2588	3.18	2660	3.39	2730	3.60
700	2191	2.40	2282	2.62	2369	2.85	2452	3.10	2532	3.34	2608	3.58	2680	3.82	2753	4.07	2823	4.31	2891	4.56
800	2399	3.26	2485	3.52	2566	3.78	2644	4.04	2719	4.31	2792	4.58	2863	4.86	2930	5.14	2996	5.41	3059	5.69
900	2614	4.32	2694	4.62	2771	4.91	2845	5.21	2916	5.50	2984	5.79	3051	6.09	3116	6.41	3180	6.72	3242	7.03
1000	2835	5.60	2909	5.94	2981	6.28	3051	6.61	3119	6.94	3184	7.26	3247	7.58	3309	7.90	3369	8.24	3429	8.59
1100	3059	7.14	3130	7.52	3197	7.89	3262	8.26	3327	8.62	3389	8.99	3450	9.35	3509	9.70				
1200	3289	8.97	3353	9.37	3417	9.78														

CFM	14" SP		15" SP		16" SP		17" SP		18" SP		19" SP		20" SP		21" SP		22" SP		23" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	2350	1.04	2433	1.14	2513	1.24	2591	1.35	2666	1.46	2739	1.57	2810	1.69	2880	1.81	2948	1.93	3014	2.05
200	2369	1.36	2448	1.48	2525	1.60	2599	1.72	2671	1.85	2742	1.97	2810	2.10	2877	2.24	2942	2.37	3008	2.51
300	2423	1.76	2503	1.90	2579	2.05	2654	2.20	2726	2.35	2796	2.50	2864	2.66	2931	2.82	2996	2.98	3060	3.14
400	2521	2.29	2593	2.45	2663	2.61	2731	2.77	2797	2.94	2861	3.10	2924	3.27	2986	3.44	3051	3.62	3115	3.81
500	2645	2.96	2711	3.14	2780	3.33	2847	3.52	2913	3.72	2976	3.91	3038	4.11	3099	4.30	3158	4.50	3216	4.70
600	2798	3.81	2863	4.02	2927	4.23	2989	4.45	3049	4.66	3107	4.87	3165	5.09	3221	5.30	3276	5.52	3334	5.75
700	2957	4.81	3021	5.05	3083	5.30	3144	5.55	3203	5.79	3261	6.04	3317	6.29	3373	6.53	3427	6.78	3479	7.03
800	3123	5.97	3185	6.25	3246	6.53	3306	6.81	3364	7.10	3420	7.38	3475	7.66	3529	7.94	3582	8.22	3634	8.51
900	3301	7.34	3360	7.65	3417	7.96	3472	8.27	3529	8.59	3584	8.91	3639	9.22	3692	9.54	3744	9.86		
1000	3487	8.93	3544	9.28	3599	9.62	3653	9.97												

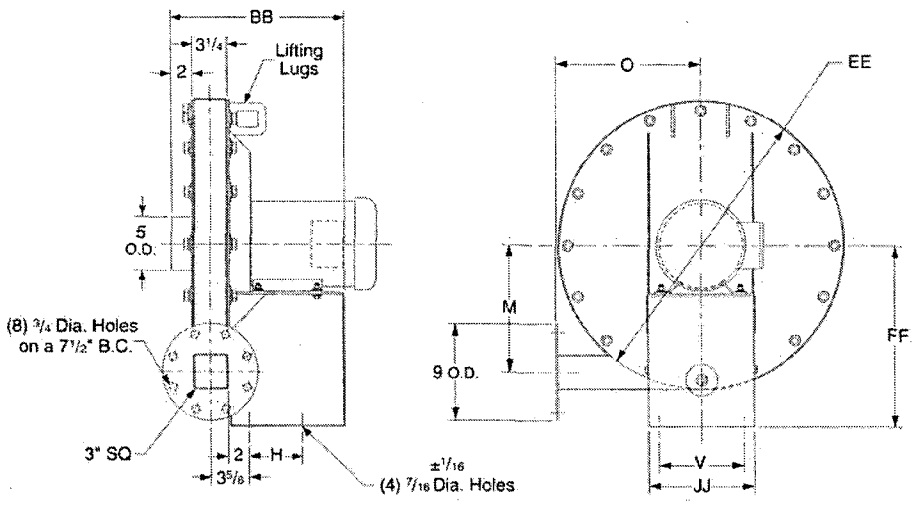
CFM	24" SP		25" SP		26" SP		27" SP		28" SP		29" SP	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
100	3079	2.17	3143	2.30	3205	2.43	3266	2.56	3326	2.70	3386	2.83
200	3073	2.66	3137	2.80	3199	2.95	3260	3.10	3320	3.26	3379	3.41
300	3122	3.30	3183	3.46	3243	3.63	3302	3.80	3359	3.97	3416	4.14
400	3177	4.00	3238	4.19	3298	4.38	3356	4.58	3414	4.77	3470	4.97
500	3273	4.90	3329	5.10	3383	5.30	3437	5.51	3490	5.71	3541	5.92
600	3390	5.98	3445	6.21	3499	6.44	3553	6.67	3605	6.91	3656	7.14
700	3531	7.27	3582	7.52	3632	7.77	3681	8.02	3730	8.27	3777	8.52
800	3686	8.79	3736	9.07	3785	9.35	3834	9.63	3881	9.91		

Performance shown is for fans with inlet and outlet ducts.

BHP does not include drive losses

DIMENSIONS and SPECIFICATIONS

Arrangement #4, Direct Drive



CW BH (Clockwise Bottom Horizontal)

Discharge flange not available with Down Blast Discharge on Models HPA, HPB and HPC.

Note: On some models motor may extend past end of motor base.

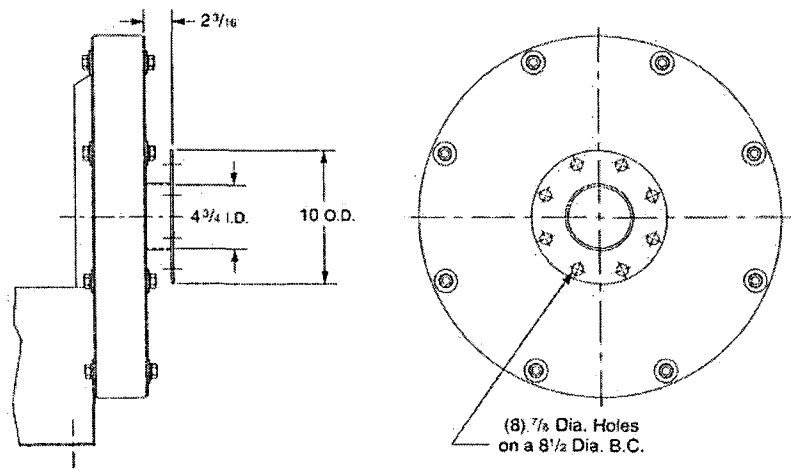
DIMENSIONS IN INCHES ±1/8"

MODEL	MOTOR FRAME	G	H	J	M	O	V	BB	EE	FF	JJ	SHIP WT. LESS MTR.
HPA	56-143T	3⅝	5	2	5⅞	8⅛	5½	14¼	15	11	7½	60
HPB	56-145T	3⅝	5	2	7⅜	9⅝	5½	14¼	18	12½	7½	70
HPC	56-145T	3⅝	5	2	8⅞	11⅛	7½	14¼	21	14	9½	90
	182T-184T							16¼				93
HPD	56-184T	3⅝	5	2	9⅞	11⅝	7½	16¼	23	15	9½	123
HPE	56-184T	3⅝	5	2	11⅞	13⅝	8	16¼	27	17	10	140
	213T-215T		9	2			9	18 1/16			11	150

★ NOTE

Discharge flange not available with down-blast discharge on models HPA, HPB and HPC.

INLET FLANGE DIMENSIONS FOR ALL HP's



! DANGER

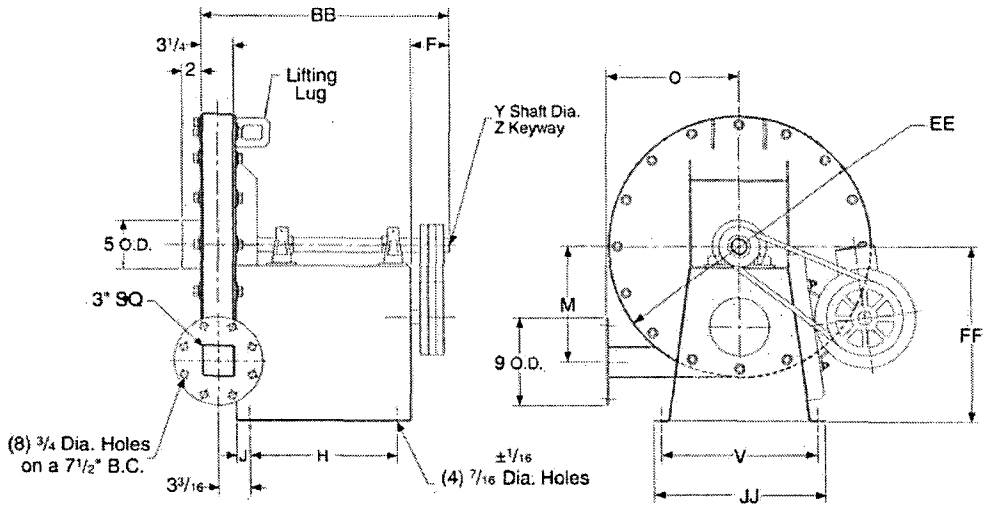
All fans & blowers shown have rotating parts and pinch points. Severe personal injury can result if operated without guards. Stay away from rotating equipment unless it is disconnected from its power source. Read operating instructions.

HP MATERIAL GAUGES

HOUSING	10
INLET SIDE PLATE	10
DRIVE SIDE PLATE	7
BASE	10
FLANGES	10

DIMENSIONS and SPECIFICATIONS

Arrangement #1 and #9, Belt Drive (specify 9R or 9L)



CW BH (Clockwise Bottom Horizontal)

Discharge flange not available with Down Blast Discharge on Models HPA, HPB, HPC and HPD.

Unit shown is arrangement 9R (motor on right side.) For motor on left side. specify arrangement 9L.

DIMENSIONS IN INCHES ±1/8"

MODEL	MOTOR FRAME	F	G	H	J	M	O	V	Y	Z	BB	EE	FF	JJ	SHIP WT. LESS MTR.
HPA	56-145T	3	3 3/16	11	1 3/8	5 7/8	8 1/8	12 5/16	1	1/4	22 5/16	15	14	13 13/16	105
HPB	56-145T	3	3 3/16	11	1 3/8	7 3/8	9 5/8	12 5/16	1	1/4	22 5/16	18	14	13 13/16	115
HPC	56-184T	3	3 3/16	11	1 3/8	8 7/8	11 1/8	12 5/16	1	1/4	22 5/16	21	14	13 13/16	135
HPD	56-215T	4	3 3/16	15	1 3/8	9 7/8	11 5/8	16	1 7/16	3/8	27 5/16	23	18	17 1/2	160
HPE	56-215T	4	3 3/16	15	1 3/8	11 7/8	13 5/8	16	1 7/16	3/8	27 5/16	27	18	17 1/2	170

CENTER DISTANCE

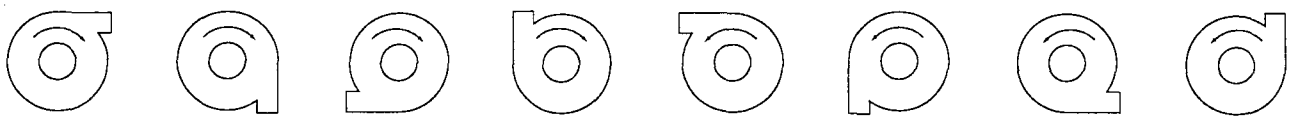
MODEL	MOTOR FRAME SIZE							
	56		143T-145T		182T-184T		213T-215T	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
HPA	9 7/16	11 7/16	9 5/8	11 5/8				
HPB	9 7/16	11 7/16	9 5/8	11 5/8				
HPC	9 7/16	11 7/16	9 5/8	11 5/8	10	11 3/4		
HPD	11 7/16	13 7/16	11 7/16	13 3/8	13 3/16	15 1/8	13 3/16	16
HPE	11 7/16	13 7/16	11 7/16	13 3/8	13 3/16	15 1/8	13 13/16	16

★ NOTE

Discharge flange not available with down-blast discharge on models HPA, HPB, HPC and HPD.

8 DISCHARGE POSITIONS AVAILABLE

Discharges shown are determined by viewing fan from motor or drive side.



CW-TH Clockwise Top *Horizontal* Discharge

CW-DB Clockwise Down-Blast Discharge

CW-BH Clockwise Bottom Horizontal Discharge

CW-UB Clockwise Up-Blast Discharge

CCW-TH Counter-Clockwise Top Horizontal Discharge

CCW-DB Counter-Clockwise Down-Blast Discharge

CCW-BH Counter-Clockwise Bottom Horizontal Discharge

CCW-UB Counter-Clockwise Up-Blast Discharge

APPENDIX D

SSDS INSPECTION FORM

Sub-Slab Depressurization System (SSDS) Inspection Checklist

Date_____

Inspector Initials_____

Site No. C755012, Former Axiohm Facility, 950 Danby Road, Ithaca, NY

I. Pressure Readings

Suction riser (Column I.D.)	Pressure Reading (in WC)
B17	– _____
B19	– _____
B21	– _____
B23	– _____
B27	– _____
B29	– _____
B31	– _____
C25	– _____
D9	– _____
D18	– _____
D19	– _____
D21	– _____
D23	– _____
D27	– _____
D29	– _____
D31	– _____
F10	– _____
F17	– _____
F19	– _____
F21	– _____
F23	– _____
F25	– _____
F27	– _____
F29	– _____
F31	– _____
F20	– _____
G 26-27	– _____
H15	– _____
H-I 17	– _____
H23	– _____
H29	– _____
I18	– _____
MW16-7BR	– _____
T-11	– _____

II. Fan Inspection

1. Fan Operational? Y_____ N_____

2. Fan Clear of obstructions? Y_____ N_____

3. Repair needs? Y_____ N_____

4. Alarm Operational? Y_____ N_____

5. Observations/Comments:

6. Actions Taken:

7. Recommended Maintenance:

Do any of the pressure gauges require repair or replacement? Y_____ N_____

If so, indicate locations, and actions taken:

Additional Comments:

GeoLogic

APPENDIX E

ENVIRONMENTAL EASEMENT & FILING DOCUMENTS

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 15th day of December, 2008, between Owner(s) **South Hill Business Campus, LLC,** or having an office at 950 Danby Road, Ithaca, New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of environmental easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and of ensuring the potential restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that environmental easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of **950 Danby Road in the Town of Ithaca, County of Tompkins, State of New York** known and designated on the tax map of the County Clerk of Tompkins as tax map parcel numbers; **Section 39 Block 1 Lots 1.1, 1.2 and 1.4**, being the same as that property conveyed to Grantor by deed on **December 17, 2004** and recorded in the Land Records of the Tompkins County Clerk at **Instrument Number 465869-001** of Deeds, a portion of which is comprised of approximately **42.532** acres, and hereinafter more fully described in Schedule "A" attached hereto and made a part hereof (the " Controlled Property"); and

WHEREAS, the Commissioner does hereby acknowledge that the Department accepts this Environmental Easement in order to ensure the protection of human health and the environment and to achieve the requirements for remediation established at this Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the covenants and mutual promises contained herein and the terms and conditions of Brownfield Cleanup Agreement Number B7-0687-05-03 Grantor grants, conveys and releases to Grantee a permanent Environmental Easement pursuant to Article 71, Title 36 of the ECL in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement").

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in

perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the potential restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The following controls apply to the use of the Controlled Property, run with the land are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property:

A. The Controlled Property may be used for **commercial** use as long as the following long-term engineering controls are employed:

(i) The Grantor or its successors and assigns must maintain in operation an active sub-slab depressurization system in the existing site building in accordance with the Site Management Plan (SMP) dated September 2008 approved by the NYSDEC and NYSDOH.

(ii) The Grantor and its successors and assigns must maintain in operation a positive-pressure air exchange system in the existing building in accordance with the SMP dated September 2008 approved by the NYSDEC and NYSDOH.

(iii) The Grantor or its successors and assigns must conduct air monitoring in accordance with the SMP dated September 2008 approved by the NYSDEC and NYSDOH.

(iv) Future Structure(s) on the Controlled Property must include an active system to mitigate the potential for soil vapor intrusion in accordance with the SMP dated September 2008 approved by the NYSDEC and NYSDOH. Such system could include sub-slab depressurization and/or positive pressurization. Alternatively, the Grantor or its successors and assigns must conduct a soil vapor intrusion investigation pursuant to a work plan approved by the NYSDEC and NYSDOH to demonstrate that such engineering controls are not necessary in new structures.

(v) The groundwater beneath the Controlled Property cannot be used as a potable water source or for any other use without prior written permission of the NYSDEC and NYSDOH, and the pumping and discharge of groundwater to the waters of the State of New York is not allowed without appropriate treatment and approval of the governing State, County, or municipal authority.

(vi) The Grantor or its successors and assigns must conduct groundwater monitoring in accordance with the SMP dated September 2008 approved by the NYSDEC and NYSDOH.

B) Grantor shall provide all persons who acquire any interest in the Controlled Property a true and complete copy of the Site Management Plan that the Department has approved for the Controlled Property and all Department-approved amendments to that Site Management Plan.

The Grantor hereby acknowledges receipt of a copy of the NYSDEC-approved Site Management Plan, dated **September** 2008 ("SMP"). The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system on the Controlled Property, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. Upon notice of not less than thirty

(30) days the Department in exercise of its discretion and consistent with applicable law may revise the SMP. The notice shall be a final agency determination. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Regional Remediation Engineer:
Region 7
NYS DEC
615 Erie Boulevard West
Syracuse, NY 13204-2400

or

Site Control Section
Division of Environmental Remediation
NYS DEC
625 Broadway
Albany, NY 12233

C. The Controlled Property may not be used for a higher level of use such as **unrestricted use or restricted residential** use and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

D. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an environmental easement held by the New York State Department of Environmental Conservation pursuant of Title 36 to Article 71 of the Environmental Conservation Law.

E. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

F. Grantor covenants and agrees that it shall annually, or such time as NYSDEC may allow, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury that the controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls employed at the Controlled Property were approved by the NYSDEC, and that nothing has occurred that would impair the ability of such control to protect the public health and environment or constitute a violation or failure to comply with any Site Management Plan for such controls and giving access to such Controlled Property to evaluate continued maintenance of such controls.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Controlled Property, including:

1. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

2. The right to give, sell, assign, or otherwise transfer the underlying fee interest to the Controlled Property by operation of law, by deed, or by indenture, or to mortgage or place a lien subject and subordinate to this Environmental Easement;

5. Enforcement

A. This environmental easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this environmental easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person intentionally violates this environmental easement, the Grantee may revoke the Certificate of Completion provided under ECL Article 27, Title 14, or Article 56, Title 5 with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach. Grantor shall then have a reasonable amount of time from receipt of such notice to cure. At the expiration of said second period, Grantee may commence any proceedings and take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement in accordance with applicable law to require compliance with the terms of this Environmental Easement.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar its enforcement rights in the event of a subsequent breach of or noncompliance with any of the terms of this Environmental easement.

6. Notice. Whenever notice to the State (other than the annual certification) or approval from the State is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:
County, NYSDEC Site Number, NYSDEC Contract or Order Number, and the
County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to: Site Number: C 755012
Environmental Easement Attorney
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

Such correspondence shall be delivered by hand, or by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. This environmental easement may be amended only by an amendment executed by the Commissioner of the New York State Department of Environmental Conservation and filed with the office of the recording officer for the county or counties where

the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This environmental easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Grantor's Name: South Hill Business Campus, LLC .

By: _____
Andrew J. Sciarabba- General Manager Member

Title: Managing Member Date: 11/26/08

By: _____
Robert M. Petrovich, Environmental Manager/Member

Title: Environmental Manager/Member Date: 12/1/08

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation

by: _____
Alexander B. Grannis, Commissioner

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Tompkins)

On the 26th day of November, in the year 20 08 before me, the undersigned, personally appeared Andrew J Sciarabba, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

_____
Notary Public - State of New York

DEBBIE S. CRANDALL
Notary Public, State of New York
No. 01CR5013233
Qualified in Tompkins County
Commission Expires July 15, 2011

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Onondaga)

On the 1st day of December, in the year 2008, before me, the undersigned, personally appeared Robert M. Petrovich, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Christine N. Malkoske
Notary Public - State of New York

CHRISTINE N MALKOSKE
Notary Public, State of New York
No. 01MA6167684
Onondaga County
Commission Expires June 4, 2011

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 15th day of December, in the year 2008, before me, the undersigned, personally appeared ALEXANDER B. GRANNIS personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (~~are~~) subscribed to the within instrument and acknowledged to me that he/~~she~~/ executed the same in his/~~her~~/ capacity as Commissioner of the State of New York Department of Environmental Conservation, and that by his/~~her~~/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

Yvonne M. Ward
Notary Public - State of New York

Yvonne M. Ward
Notary Public - State of New York
No. 02WA6115685
Qualified in Saratoga County
My Commission Expires Sept. 13, ~~2008~~ 2012

SCHEDULE "A"
PROPERTY DESCRIPTION

BCP SITE NO. C755012

South Hill Business Center, LLC

950 Danby Road

ALL THAT TRACT OR PARCEL OF LAND situate in the Town of Ithaca, County of Tompkins and State of New York, being a portion of the lands conveyed by TPG IPB, Inc. to South Hill Business Campus, LLC by bargain and sale deed dated 12/17/2004 and filed in the Tompkins County Clerk's office in Liber 465869 at page 9001 and bounded and described as follows:

BEGINNING at an pipe in the west line of New York State Highway Route 96B'which pipe is located north 83°03'41" west from the Intersection of the north line of the premises to be conveyed herein extended to its intersection with center line of NYS route 96B a perpendicular distance of 61.4 feet which point of intersection is 1423± feet more or less, southerly from the intersection of Route 96B with the center line of Coddington Road;

THENCE running south 20°51'37" west along the highway line a distance of 168.81 feet to a pipe;

THENCE running south 68°32'01" east a distance of 13.00 feet to an iron pipe;

THENCE running south 21°37'55" west along said highway line a distance of 953.16 feet to a point;

THENCE continuing along said highway line south 22°42'32" west a distance of 463.00 feet to a point;

THENCE continuing along said highway south 23°05'46" west, a distance of 15.63 feet to a point;

THENCE running through the lands of South Hill Business Center, LLC north 83°51'55" west a distance of 989.23 feet to a point;

THENCE running north 07°11'20" east a distance of 924.57 feet to a pin found at the intersection of stone walls;

THENCE running north 07°11'20" east a distance of 625.43 feet to a pipe;

THENCE running south 83°51'55" east a distance of 968.14 feet to a pipe;

THENCE running south 83°03'41" east a distance of 414.30 feet to the point of beginning; and containing 42.532± acres of land more or less

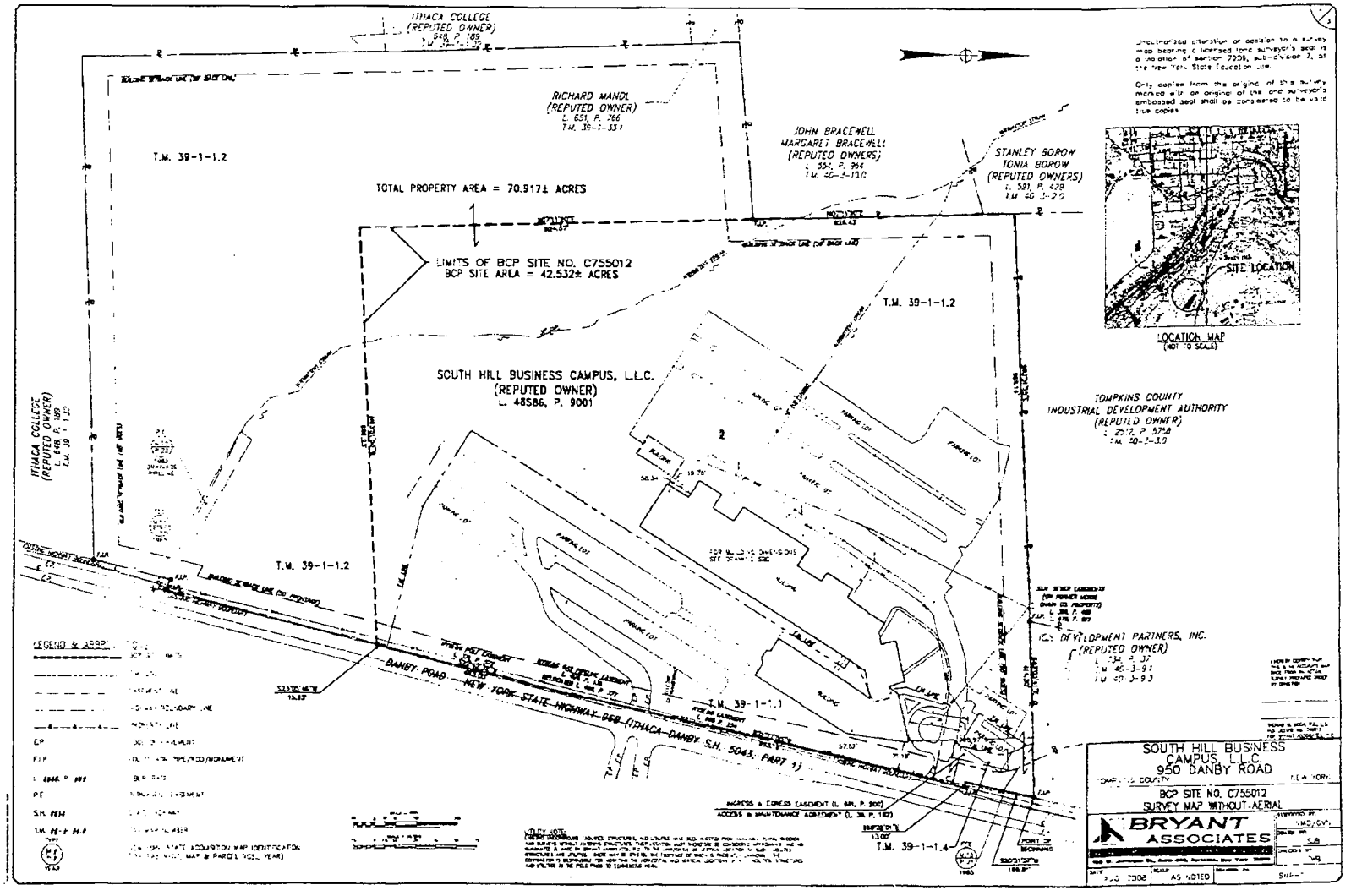
TOGETHER with the following:

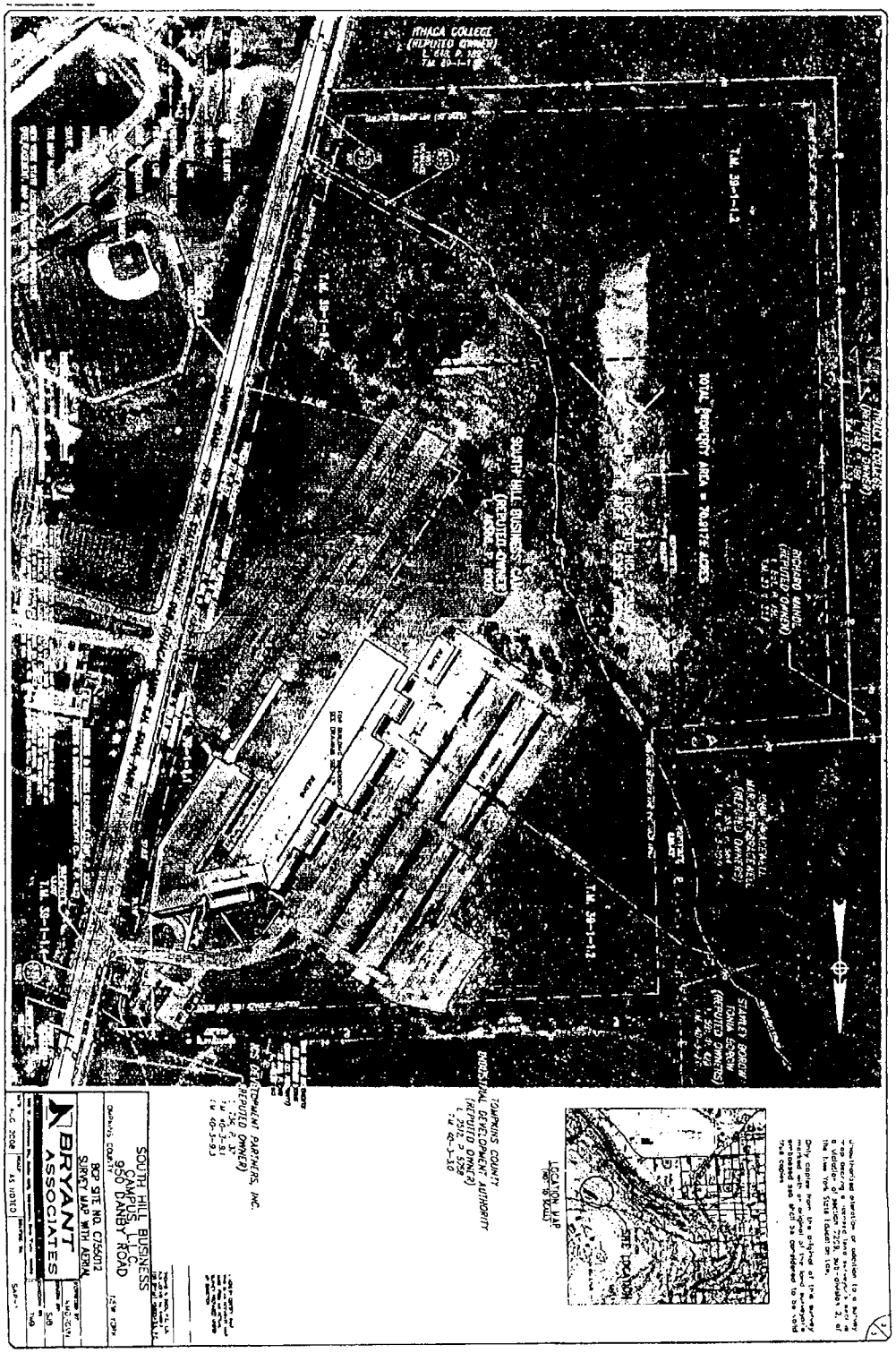
1 An easement granted to the National Cash Register Company by Instrument dated March 8, 1957 and recorded in the Tompkins County Clerk's Office on March 21, 1957 in Liber'398 of Deeds at page 489 for the construction, maintenance, repair, replacement or enlargement of the sanitary sewer line and manholes over the premises described in said easement. Said easement is shown on the map of the "Proposed Sanitary Sewer Connection for New Plant of the National Cash Register Company to City of Ithaca, N.Y. System" made by Carl Crandall, C,E,, dated July 15, 1956 a copy of which was filed In the Tompkins County Clerk's Office in Drawer 3 on October 9, 1956.

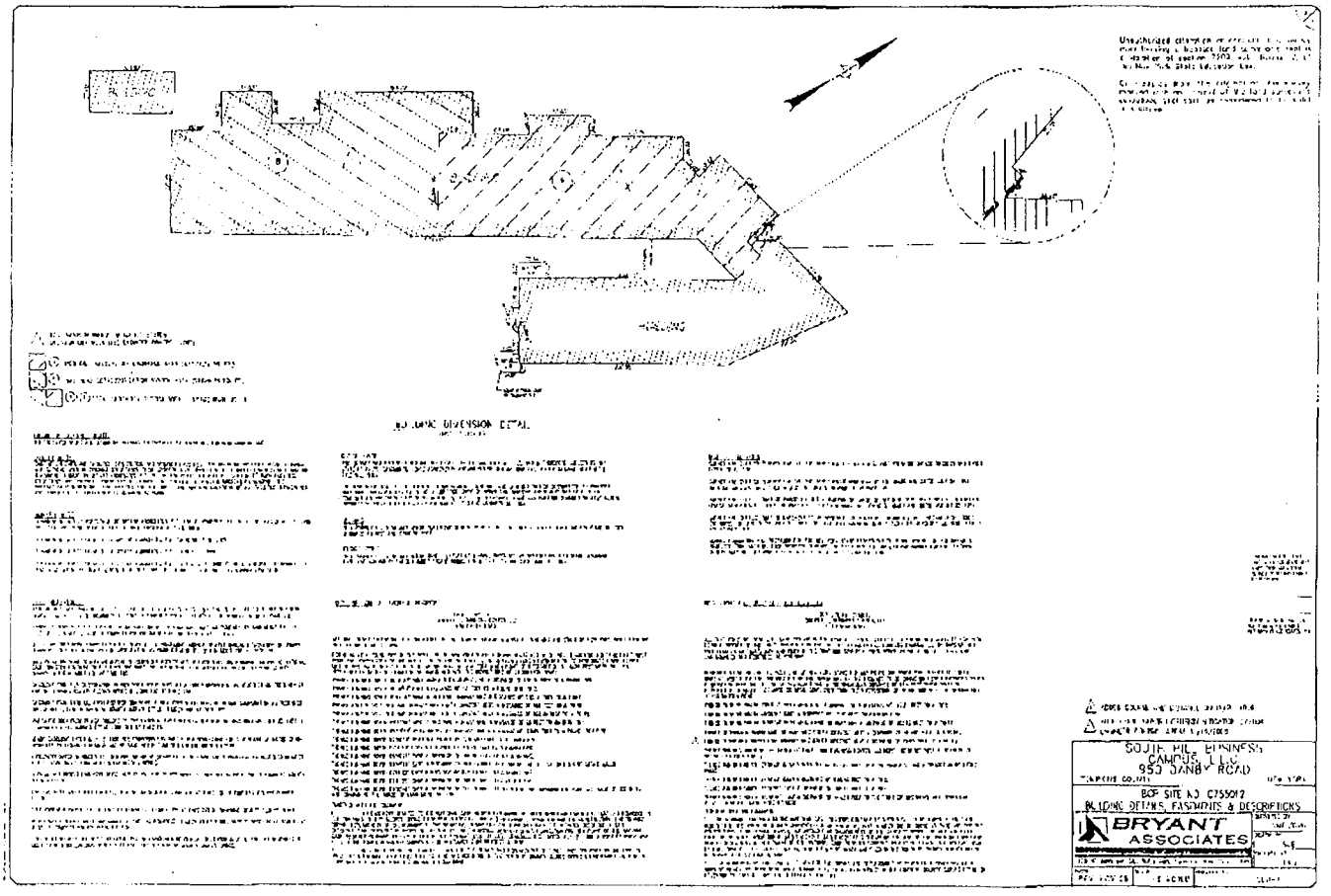
2 An agreement by the Town of Ithaca for the repair and replacement of sewer lines conveyed to the Town of Ithaca by instrument dated November 13, 1968 and recorded In the Tompkins County Clerk's Office on November 22, 1968 in Liber 478 of Deeds at page 915.

County: Tompkins Site No: C 755012 BCA Index No:- B7-0687-05-03

SURVEY




ITHACA COLLEGE
(REPUTED OWNER)
T.M. 39-1-1.2
TOTAL PROPERTY AREA = 70.9125 ACRES
SOUTH HILL BUSINESS CAMPUS
(REPUTED OWNER)
RICHARD MANOL
(REPUTED OWNER)
STANLEY BORDEN
TONIA BORDEN
(REPUTED OWNERS)
TOMPKINS COUNTY
INDUSTRIAL DEVELOPMENT AUTHORITY
(REPUTED OWNER)
LOCATION MAP
SITE LOCATION
SOUTH HILL BUSINESS
CAMPUS, L.L.C.
950 DANBY ROAD
BCP SITE NO. C755012
SURVEY MAP WITH AERIAL
BRYANT
ASSOCIATES


SOUTH HILL BUSINESS CAMPUS, LLC
950 DANBY ROAD
BCP SITE NO. C755012
BUILDING DETAILS, EASEMENTS & DESCRIPTIONS
BRYANT ASSOCIATES

EDMS # 318560

Aurora R. Valenti
TOMPKINS COUNTY CLERK

320 North Tioga Street
Ithaca, NY 14850
(607) 274-5431
Fax: (607) 274-5445

Instrument Number
535526-005

No. of Pages: 2

Receipt No. 535526

DATE: 12/17/2008

Time: 02:41 PM

Document Type: MISC RECORDS

Parties To Transaction: SOUTH HILL BUSINESS CAMPUS

Delivered By: BARNEY GROSSMAN DUBOW M

Return To:
BARNEY GROSSMAN DUBOW MARCUS
SENECA BUILDING WEST SUITE 400
119 EAST SENECA STREET
ITHACA, NY 14850

Deed Information

Consideration:

Transfer Tax:

RETT No:

County Transfer Tax:

State of New York
Tompkins County Clerk

Mortgage Information

Mortgage Amount:

Basic Mtge. Tax:

Special Mtge. Tax:

Additional Mtge. Tax:

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York. DO NOT DETACH

Aurora R. Valenti

Tompkins County Clerk

535526-005

SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

That, for consideration of the sum of One Dollar ($1.00) and other good valuable consideration in hand paid, receipt of which is hereby acknowledged, Chemung Canal Trust Company ("Mortgagee") and South Hill Business Campus, LLC ("Mortgagor"), the undersigned, have agreed and by these presents do agree that The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation have an interest in the real property described in a certain Environmental Easement from South Hill Business Campus, LLC ("Grantor") to The People of the State of New York ("Grantee") acting through their Commissioner of the Department of Environmental Conservation, dated the 15th day of December, 2008 recorded at Instrument Number 535526-001 in the Tompkins County Clerk's Office.

The above-described Environmental Easement shall be a superior interest upon said property to the lien of (a) that certain unrecorded Mortgage from Mortgagor to Mortgagee, in the amount of $4,000,000.00 dated the 30th day of September, 2005; (b) that certain Assignment of Leases and Rents from Mortgagor to Mortgagee dated the 30th day of September, 2005 and recorded the same date in said Clerk's Office at Instrument Number 479862-001; (c) that certain Building Loan Contract between Mortgagor and Mortgagee dated the 30th day of September, 2005 and recorded the same date in said Clerk's Office at Instrument Number 479862-003; and (d) that certain Notice of Lending from Mortgagee to Mortgagor dated the 30th day of September, 2005 and recorded the same date in said Clerk's Office at Instrument Number 479862-004.

In the event that the above-described Environmental Easement is amended or assigned, this Subordination Agreement will remain in effect and enforceable.

Chemung Canal Trust Company

By: _____
Print Name: JEFFREY L. GREUBER
Title: ASST. VICE PRESIDENT

South Hill Business Campus, LLC

By _____
Andrew J. Sciarabba
General Manager Member

STATE OF NEW YORK)
COUNTY OF ~~TOMPKINS~~ Chemung)ss.:

On the 6th day of October in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Jeffrey L. Gruber, AVP, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Dena M. Carrigan
Notary Public, State of New York
No. 4997615
Qualified In Schuyler County
Commission Expires 6 8 10

Dena Carrigan
Notary Public

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 4th day of November in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Andrew J. Sciarabba, General Manager Member of South Hill Business Campus, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

RANDALL MARCUS
Notary Public, State of New York
No. 02MA4967141
Qualified in Tompkins County
Commission Expires May 29, 2010

Aurora R. Valenti
TOMPKINS COUNTY CLERK

320 North Tioga Street
Ithaca, NY 14850
(607) 274-5431
Fax: (607) 274-5445

Instrument Number
535526-003

No. of Pages: 2

Receipt No. 535526

DATE: 12/17/2008

Time: 02:40 PM

Document Type: MISC RECORDS

Delivered By: BARNEY GROSSMAN DUBOW M

Return To:
BARNEY GROSSMAN DUBOW MARCUS
SENECA BUILDING WEST SUITE 400
119 EAST SENECA STREET
ITHACA, NY 14850

Parties To Transaction: SOUTH HILL BUSINESS CAMPUS

Deed Information

Consideration:

Transfer Tax:

RETT No:

County Transfer Tax:

State of New York
Tompkins County Clerk

Mortgage Information

Mortgage Amount:

Basic Mtge. Tax:

Special Mtge. Tax:

Additional Mtge. Tax:

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York. DO NOT DETACH

Aurora R. Valenti

Tompkins County Clerk

535526-003

SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

That, for consideration of the sum of One Dollar ($1.00) and other good valuable consideration in hand paid, receipt of which is hereby acknowledged, ICS Development Partners, Inc. (successor in interest to Overview of Ithaca, Inc. by deed recorded in the Tompkins County Clerk's Office at Liber 734, page 37 in and to the real property identified as Town of Ithaca Tax parcels number 40-3-9.1 and 40-3-9.3; "ICS") and South Hill Business Campus, LLC ("SHBC"), the undersigned, have agreed and by these presents do agree that The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation have an interest in the real property described in a certain Environmental Easement from South Hill Business Campus, LLC ("Grantor") to The People of the State of New York ("Grantee") acting through their Commissioner of the Department of Environmental Conservation, dated the 15th day of December, 2008 recorded at Instrument Number 535526-001 in the Tompkins County Clerk's Office.

The above-described Environmental Easement shall be a superior interest upon said property to any and all interests in said property held by ICS in accordance with (a) the Easement Agreement between Old River Software, Inc. and Overview of Ithaca, Inc. dated July 31, 1992, and recorded August 10, 1992 in said Clerk's Office at Liber 39 of Miscellaneous Records, page 162, and (b) the Easement granted to Overview of Ithaca, Inc. dated July 31, 1992, and recorded August 10, 1992 in said Clerk's Office at Liber 681 of Deeds, page 200.

In the event that the above-described Environmental Easement is amended or assigned, this Subordination Agreement will remain in effect and enforceable.

ICS Development Partners, Inc.

By: _____
Print Name: _____
Title: PRESIDENT

South Hill Business Campus, LLC

By: _____
Andrew J. Sciarabba
General Manager Member

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 29th day of October in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Om P. Gupta, as president of grantor, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

RANDALL MARCUS
Notary Public, State of New York
No. 02MA6087141
Qualified in Tompkins County
Commission Expires May 29, 2010

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 4th day of November in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Andrew J. Sciarabba, General Manager Member of South Hill Business Campus, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

RANDALL MARCUS
Notary Public, State of New York
No. 02MA6087141
Qualified in Tompkins County
Commission Expires May 29, 2010

Aurora R. Valenti
TOMPKINS COUNTY CLERK
320 North Tioga Street
Ithaca, NY 14850
(607) 274-5431
Fax: (607) 274-5445

Instrument Number
535526-004

No. of Pages: 2

Delivered By: BARNEY GROSSMAN DUBOW M

Receipt No. 535526

Return To:
BARNEY GROSSMAN DUBOW MARCUS
SENECA BUILDING WEST SUITE 400
119 EAST SENECA STREET
ITHACA, NY 14850

DATE: 12/17/2008

Time: 02:40 PM

Document Type: MISC RECORDS

Parties To Transaction: SOUTH HILL BUSINESS CAMPUS

Deed Information

Consideration:

Transfer Tax:

RETT No:

County Transfer Tax:

State of New York
Tompkins County Clerk

Mortgage Information

Mortgage Amount:

Basic Mtge. Tax:

Special Mtge. Tax:

Additional Mtge. Tax:

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York. DO NOT DETACH

Aurora R. Valenti

Tompkins County Clerk

535526-004

SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

That, for consideration of the sum of One Dollar ($1.00) and other good valuable consideration in hand paid, receipt of which is hereby acknowledged, Tompkins County Industrial Development Agency ("TCIDA") and South Hill Business Campus, LLC ("SHBC"), the undersigned, have agreed and by these presents do agree that The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation have an interest in the real property described in a certain Environmental Easement from South Hill Business Campus, LLC ("Grantor") to The People of the State of New York ("Grantee") acting through their Commissioner of the Department of Environmental Conservation, dated the 15th day of December, 2008 recorded at Instrument Number 535526-001 in the Tompkins County Clerk's Office.

The above-described Environmental Easement shall be a superior interest upon said property to any and all interests in said property held by TCIDA in accordance with (a) the Lease between TCIDA and SHBC dated February 27, 2007, a Memorandum of which was recorded the same date in said Clerk's Office as Instrument Number 504698-001, and (b) the Lease between SHBC and TCIDA dated February 27, 2007, a Memorandum of which was recorded the same date in said Clerk's Office as Instrument Number 504698-002.

In the event that the above-described Environmental Easement is amended or assigned, this Subordination Agreement will remain in effect and enforceable.

Tompkins County Industrial Development Agency

By: _____
Print Name: Michael Stamm
Title: Ad. Dir.

South Hill Business Campus, LLC

By: _____
Andrew J. Sciarabba
General Manager Member

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 3 day of October in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Michael Stamm, ADMINISTRATIVE DIRECTOR, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

AMIE B. SWEENEY
Notary Public, State of New York
No. 01SW6042138
Qualified in Cortland County
Commission Expires May 15, 20 10

Notary Public

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 4th day of November in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Andrew J. Sciarabba, General Manager Member of South Hill Business Campus, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

PAMDALL MARCUS
Notary Public, State of New York
No. [illegible]
Qualified in [illegible] County
Commission Expires [illegible], 20 10

Aurora R. Valenti
TOMPKINS COUNTY CLERK

320 North Tioga Street
Ithaca, NY 14850
(607) 274-5431
Fax: (607) 274-5445

Instrument Number
535526-002

No. of Pages: 2

Receipt No. 535526

DATE: 12/17/2008

Time: 02:39 PM

Document Type: MISC RECORDS

Parties To Transaction: SOUTH HILL BUSINESS CAMPUS

Delivered By: BARNEY GROSSMAN DUBOW M

Return To:
BARNEY GROSSMAN DUBOW MARCUS
SENECA BUILDING WEST SUITE 400
119 EAST SENECA STREET
ITHACA, NY 14850

Deed Information

Consideration:

Transfer Tax:

RETT No:

County Transfer Tax:

State of New York
Tompkins County Clerk

Mortgage Information

Mortgage Amount:

Basic Mtge. Tax:

Special Mtge. Tax:

Additional Mtge. Tax:

Mortgage Serial No.:

This sheet constitutes the Clerk endorsement required by Section 316-A(5) & Section 319 of the Real Property Law of the State of New York. DO NOT DETACH

Aurora R. Valenti

Tompkins County Clerk

5355526-0002

SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

That, for consideration of the sum of One Dollar ($1.00) and other good valuable consideration in hand paid, receipt of which is hereby acknowledged, New York State Electric & Gas Corporation ("NYSEG") and South Hill Business Campus, LLC ("SHBC"), the undersigned, have agreed and by these presents do agree that The People of the State of New York acting through their Commissioner of the Department of Environmental Conservation have an interest in the real property described in a certain Environmental Easement from South Hill Business Campus, LLC ("Grantor") to The People of the State of New York ("Grantee") acting through their Commissioner of the Department of Environmental Conservation, dated the 15th day of December, 2008 recorded at Instrument Number 535526-001 in the Tompkins County Clerk's Office.

The above-described Environmental Easement shall be a superior interest upon said property to any and all interests in said property held by NYSEG in accordance with each of the four easements granted to NYSEG described as follows: (a) dated June 4, 1954 and recorded September 30, 1954 in said Clerk's Office in Liber 371 of Deeds, at page 572; (b) dated September 27, 1957 and recorded February 13, 1958 in said Clerk's Office in Liber 404 of Deeds, at page 139; (c) dated April 8, 1966 and recorded in August 4, 1966 in said Clerk's Office in Liber 464 of Deeds, at page 377; (d) dated January 15, 1991 and recorded February 21, 1991 in said Clerk's Office in Liber 660 of Deeds, at page 254.

In the event that the above-described Environmental Easement is amended or assigned, this Subordination Agreement will remain in effect and enforceable.

New York State Electric & Gas Corporation

By: Teresa M. Turner CEO
Print Name: TERESA M. TURNER
Title: VP Customer Service

South Hill Business Campus, LLC

By: Andrew J. Sciarabba
Andrew J. Sciarabba
General Manager Member

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 29th day of October in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Teresa M. Thomas, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Cynthia K. Oliver
Notary Public State of New York
Qualified in Broome County
010L450872
My Commision Expires on 5/5/2010

Notary Public

STATE OF NEW YORK)
COUNTY OF TOMPKINS)ss.:

On the 4th day of November in the year 2008 before me, the undersigned, a Notary Public in and for said State, personally appeared Andrew J. Sciarabba, General Manager Member of South Hill Business Campus, LLC, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name(s) is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public

RANDALL MARCUS
Notary Public, State of New York
No. 02MA4957141
Qualified in Tompkins County
Commission Expires May 29, 2010