

MARINA FAIRE, LP

3271 South Highland Drive, Suite 704, Las Vegas, NV 89109
Office (702) 369-9595 • Fax (702) 369-2776

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By Alameda County Environmental Health 11:07 am, Oct 23, 2017

20 October 2017

Mr. Mark Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Informational Documents Prepared by EKI
13778 Doolittle Drive, San Leandro, California

Dear Mr. Detterman:

Attached for your review is a letter from EKI Environment & Water, Inc. ("EKI") providing documents requested during our 5 October 2017 conference call/meeting. These documents were prepared at Marina Faire, LP's direction.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached documents is true and correct to the best of my knowledge.

If you should have any questions or comments, please do not hesitate to contact me or the EKI Project Manager, Vera Nelson, P.E. at (650) 292-9100.

Sincerely,



Greg Lee

Marina Faire, LP
3271 S. Highland Dr., Ste #704
Las Vegas, Nevada 89109

20 October 2017

Mr. Mark Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Informational Documents
13778 Doolittle Drive, San Leandro, California
(EKI B70097.00)

Dear Mr. Detterman:

On behalf of Marina Faire, LP, EKI Environment & Water, Inc. ("EKI"), formerly known as Erler & Kalinowski, Inc., is submitting the attached documents for investigation and implementation of mitigation measures at the Marina Faire shopping center at and near 13778 Doolittle Drive, San Leandro, California (the "Site"). These documents are being provided to Alameda County Department of Environmental Health ("ACDEH") based on our 5 October 2017 meeting at your office.

BACKGROUND

Volatile organic compounds ("VOCs") have been detected in soil, groundwater, and/or soil gas beneath the former dry cleaner space and adjoining units at the Site, as described in the *Remedial Progress Report* (RRM, 2017). The VOCs are primarily tetrachloroethene ("PCE") and to a lesser extent trichloroethene ("TCE") and other VOCs. Much of the soil that contains VOCs beneath the former dry cleaning unit has been excavated to a maximum depth of seven feet below ground surface ("bgs"), yet VOCs still remain in soil, groundwater, and soil gas in the area near the former cleaners.

This letter includes:

- (a) A preliminary schedule to complete investigations and mitigation measures at the Site;
- (b) A plan to resample indoor air at the dentist's suite at 13770 Doolittle Drive after completing HVAC modifications and sealing utility penetrations in the suite (and includes, as Exhibit A, a "TCE Indoor Air Response Plan" to be implemented if, in the resampling, TCE concentrations in IA exceed applicable USEPA guidelines); and
- (c) A work plan to complete a sub-slab depressurization ("SSD") system pilot test.

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PRELIMINARY SCHEDULE

At our meeting on 5 October 2017, EKI presented a draft schedule to complete investigation, mitigation, and remedial work at the Site. The work and schedule prioritize investigation and mitigation of VOCs in indoor air. The schedule has been updated to incorporate additional tasks requested by ACDEH, including an Interim Risk Management Plan for the Site. The updated schedule is attached hereto.

PLAN TO RESAMPLE INDOOR AIR SAMPLING AT 13770 DOOLITTLE

PCE concentrations have been detected above Regional Water Quality Control Board commercial environmental screening levels in indoor air samples collected in the adjacent dentist's suite at 13770 Doolittle Drive. The latest samples were collected in August 2017, after modifications to the heating, ventilating, and air conditioning ("HVAC") system were implemented to bring in greater quantities of fresh air. Further mitigation measures are being implemented to address PCE concentrations detected in indoor air in this suite. These mitigation measures include further modification of the HVAC system to increase positive pressure and further increase the percentage of outdoor air into the suite. In addition, utility penetrations in the floor slab will be sealed. Upon completion of these activities, indoor air will be resampled within the suite at 13770 with the HVAC operating in accordance with the procedures identified in the attached plan (Attachment A).

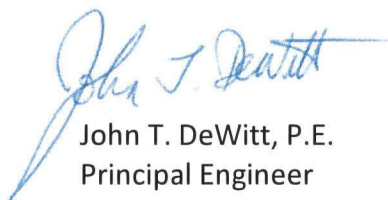
SSD DEPRESSURIZATION SYSTEM PILOT STUDY WORKPLAN

A workplan for a SSD pilot study is also attached (Attachment B). The SSD pilot study is intended to provide information needed to design and permit the full-scale SSD system, including blower size, sub-slab vapor flow rates, and lateral influence of SSD.

If you have any questions or need additional information, please do not hesitate to call.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.


John T. DeWitt, P.E.
Principal Engineer

cc: Greg Lee
Julie D'Hondt
Ed Firestone



Tables:

Table 1 Preliminary Schedule

Attachments

Attachment A Plan for Resampling of Indoor Air at 13770 Doolittle Drive

Attachment B SSD Pilot Study Workplan

Reference

RRM, 2017. *Remedial Progress Report, Former Four Seasons Cleaners, 13778 Doolittle Drive, San Leandro, California.* RRM, Inc. (RRM), 27 September 2017.

Table 1
Preliminary Schedule
Marina Faire, San Leandro, CA

19 October 2017

Task No.	Task Description	Schedule	Task Submittals
I	Address PCE Concentrations in Indoor Air at I3770	October 2017 – January 2018	Task I
Ia	Tenant Notifications/Fact Sheets	Mid-October 2017	-- Fact Sheets
Ib	Interim Mitigation PCE in Indoor Air at I3770	October/ November 2017	-- Letter with schedule, SSD Pilot Study Workplan, Indoor Air Sampling Plan
Ic	SSD Permitting, Design, and Implementation	October 2017 – January 2018	-- Indoor air data report and URAL Plan
			-- SSD Workplan
			-- SSD Implementation Report and Interim Site Management Plan
2	Assess VOCs in Sub-slab and Indoor Air in Other On-Site Suites	October – December 2017	Tasks 2 & 3
2a	Utility, Dry Cleaner, and Other HVAC Mapping	October 2017	-- Vapor Assessment Workplan
2b	Work Plan for Sub-slab and Indoor Air Sampling in On-Site Building Suites	October – December 2017	-- Vapor Assessment Implementation Report
3	Assess Potential for Off-Site VOC Vapor Migration	October 2017 – January 2018	
3a	Synthesize on-site/off-site utility maps	October 2017	
3b	Passive soil gas survey	October 2017 – January 2018	
4	Develop Site Conceptual Model	January 2018 – October 2018	-- Site Conceptual Model
5	Remedial Action Plan	November 2018 – April 2019	-- Remedial Action Plan -- Final Site Management Plan

19 October 2017

Mr. Mark Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Plan to Resample Indoor Air at
13770 Doolittle Drive, San Leandro, California
(EKI B70097.00)

Dear Mr. Detterman:

On behalf of Marina Faire, LP, EKI Environment & Water, Inc. ("EKI"), formerly known as Erler & Kalinowski, Inc., prepared this plan for resampling of indoor air ("IA") at 13770 Doolittle Drive, San Leandro, California

BACKGROUND

Volatile organic compounds ("VOCs") have been detected in soil, groundwater, and/or soil gas beneath the adjacent former dry cleaner (13778 Doolittle Drive), as described in the *Remedial Progress Report* (RRM, 2017). The VOCs are primarily tetrachloroethene ("PCE") and to a lesser extent trichloroethene ("TCE") and other VOCs. Much of the soil that contains VOCs beneath the former dry cleaning unit has been excavated to a maximum depth of seven feet below ground surface, yet VOCs still remain in soil, groundwater, and soil gas in the area near the former cleaners.

PCE concentrations have been detected above commercial Regional Water Quality Control Board ("RWQCB") Environmental Screening Levels ("ESLs") in indoor air samples collected from the adjacent dentist's suite at 13770 Doolittle Drive. The latest samples were collected in August 2017, after modifications to the heating, ventilating, and air conditioning ("HVAC") system were implemented to bring in greater quantities of fresh air. Further mitigation measures are being implemented to address PCE concentrations detected in indoor air in this suite. These mitigation measures include further modification of the HVAC system to increase positive pressure within the suite and further increase the percentage of outdoor air into the suite. In addition, utility penetrations in the floor slab will be sealed. Upon completion of these activities and with the HVAC operating (as described below), indoor air will be resampled within the suite at 13770 Doolittle Drive in accordance with the procedures identified herein.

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INDOOR AIR SAMPLING AND ANALYSIS PLAN

Indoor air samples will be collected from two locations within the suite, and one location near the air intake at the rooftop. The indoor air samples will be collected during normal working hours with the HVAC system operating in its normal operating mode. The HVAC system fan is anticipated to be set to operate 24/7 in the dentist office, so the sample will be collected during normal working hours.

An outdoor air sample will also be collected on the rooftop near the HVAC inlet to evaluate concurrent ambient concentrations of VOCs in outdoor air.

The sampling and analysis methodology is summarized below.

Chemical Inventory

Prior to IA resampling, the office will be visually inspected for the presence materials (such as cleaning products) that potentially contain chlorinated VOCs for which the IA samples will be analyzed. Chemical ingredient lists will be reviewed and product Safety Data Sheets will be obtained and reviewed if needed to assess the contents. Any product that is suspected of containing chlorinated VOCs such as PCE or TCE will be removed from the office if possible prior to IA resampling.

Air Sample Collection Methods and Procedures

The indoor and outdoor air samples will be collected in pre-evacuated 6-liter SUMMA[®]-passivated, stainless steel sample canisters provided by K-Prime, Inc. analytical laboratory located in Santa Rosa, California ("K-Prime"). Each sample canister will be fitted with (a) a flow controller to collect the sample over approximately an 8-hour period, and (b) a vacuum gauge to monitoring the vacuum in the canister during sampling. Each canister, flow controller, and gauge will be provided by the analytical laboratory and individually certified by the analytical laboratory to be free of selected VOCs at the specified analytical reporting limit. New Teflon[®] tubing provided by the laboratory will be used for connecting the canister and the flow controller. The sample canisters for the indoor air samples will be setup with the sampling inlet at a height of approximately 3 to 5 feet above the building floor.

During the sample collection period, EKI will periodically record the vacuum in each sample canister, as indicated on the vacuum gauge provided with the canister, to verify acceptable sample collection rates. Following completion of sample collection, EKI will return the sample containers and equipment to the laboratory using routine chain-of-custody procedures, and request sample analysis as described below.

Laboratory Analysis of Air Samples

The indoor and outdoor air samples will be submitted to K-Prime for analysis of selected VOCs, including PCE, TCE, cis-1,2-dichloroethene, trans-1,2-dichloroethene, and vinyl chloride, using

U.S. EPA Method TO-15 (selected ion monitoring (“SIM”) mode). The samples will be analyzed on a one-week turnaround from receipt of the samples at the laboratory.

REPORTING

The sampling results from the IA resampling will be described in a letter report to the ACDEH. VOC concentrations in IA samples will be evaluated with respect to the most recent version of commercial ESLs for VOCs in IA as published by the RWQCB. Additionally, the USEPA has determined that short-term (acute) exposure to TCE can potentially affect a developing fetus. Therefore, USEPA Region 9 has issued “Interim Action Levels” to assess when action is required to protect against possible hazards from short-term exposures (USEPA, 2014). Consequently, TCE concentrations in IA will be compared to the USEPA Interim Action Levels. A TCE Indoor Air Response Plan is attached as Exhibit A for ACDEH review to be implemented if, in the resampling, TCE concentrations in IA exceed the referenced USEPA guidelines.

If you have any questions or need additional information, please do not hesitate to call.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.



Vera H. Nelson, P.E.
Vice President

cc: Greg Lee
Julie D’Hondt
Ed Firestone

Attachment

Exhibit A TCE Indoor Air Response Plan

References

RRM, 2017. *Remedial Progress Report, Former Four Seasons Cleaners, 13778 Doolittle Drive, San Leandro, California*. RRM, Inc. (RRM), 27 September 2017.

USEPA, 2014. *EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion*. United States Environmental Protection Agency, Region 9, July 9, 2014.

Exhibit A

TCE Indoor Air Response Plan 13770 Doolittle Drive

This response plan describes potential actions that could be implemented at 13770 Doolittle Drive in the event that trichloroethene (“TCE”) concentrations in indoor air samples exceed interim action levels established by the United States Environmental Protection Agency (“USEPA”).

Action Limits

The Regional Water Quality Control Board (“RWQCB”) Environmental Screening Levels (“ESLs”) for VOCs in indoor air are protective of long-term (chronic) exposure and risks. For TCE, the USEPA has determined that short-term (acute) exposure can potentially affect a developing fetus. Therefore, USEPA Region 9 has issued “Interim Action Levels” to assess when action is required to protect against possible hazards from short-term exposures (USEPA, 2014):

- “Urgent Response Action Level” (“URAL”) = 24 micrograms per cubic meter (“ug/m³”):
 - USEPA recommends: “In the event indoor air TCE concentrations are observed to be greater than the urgent response action level, we recommend mitigation measures be initiated immediately and their effectiveness (defined as a reduction of the indoor air TCE concentration to below HQ=1 level) confirmed before any additional exposure is allowed to occur (e.g., all actions completed and confirmed within a few days). Note that temporary relocation may be indicated under these circumstances because of the need to prevent additional exposure.”
- “Accelerated Response Action Level” (“ARAL”) = 8 ug/m³:
 - USEPA recommends: “In the event indoor air TCE concentrations are observed to be greater than the accelerated response action level, we recommend early or interim mitigation measures be evaluated and implemented quickly, and their effectiveness (defined as a reduction of the TCE indoor air concentration to below HQ=1 level) confirmed promptly (e.g., all actions completed and confirmed within a few weeks).”

Based on this USEPA guidance, urgent response is defined as IA samples with TCE greater than 24 ug/m³.

Potential Actions

In indoor air samples that were collected on 31 August 2017 from the dentist office space at 13770 Doolittle Drive (next to the former dry cleaners), TCE was not detected above the analytical reporting limit of 0.015 ug/m³. Thus, at this time there is no indication that TCE is present in indoor air at the Site at levels above the ARAL or URAL. However, in the event that the concentration of TCE in indoor air exceeds these interim action levels in the future, USEPA recommends that one or more of the following actions be considered (USEPA, 2014):

- Increasing building pressurization and/or ventilation;

- Sealing potential conduits where vapors may be entering the building; or
- Treating indoor air (carbon filtration, air purifiers).

Because, prior to resampling indoor air in the dentist office space, the Property Owner will have taken steps to increase ventilation and seal potential vapor conduits, if the concentration of TCE in indoor air exceeds these interim action levels, treating indoor air is the most reasonable next step.

In that circumstance, the Property Owner will immediately take the following steps:

- Upon receipt of laboratory data report that indicates TCE concentrations in indoor air exceed the ARAL or URAL, EKI will immediately notify the Property Owner and its attorney of the results and the Property Owner will then notify the tenant and ACDEH. In addition, the Property Owner will advise the tenant not to occupy the space until further action is taken and TCE concentrations in indoor air are below the ARAL.
- The Property Owner will install a suitable portable air filter (with carbon filtration) unit(s) to remove VOCs from the indoor air in the dentist office. Filters will be routinely maintained and replaced.
- Within one business day after installing the portable air filter unit(s), EKI will sample indoor air in the office space to evaluate the effectiveness of the air filter unit in reducing the concentration of TCE below the ARAL and URAL. Samples will be collected within the breathing zone over an 8-hour sample period to measure the concentrations that may be present under normal working conditions. This analysis will be conducted on a 24-hour analytical turnaround time. ACDEH will be notified immediately of the results and the Property Owner will notify the tenant.
- In the event that the concentration of TCE in indoor air after installing the first portable air filter unit(s) exceeds the ARAL or URAL, the Property Owner will immediately install additional units and thereafter resample to determine the effectiveness of the additional indoor air treatment. ACDEH will be notified immediately of the resampling results and the Property Owner will notify the tenant.
- If, in the resamples, the concentration of TCE in indoor air after installing the additional portable air filter units continue to exceed the ARAL or URAL, upon receiving the resampling data, the Property Owner and ACDEH shall participate in an immediate telephone conversation to discuss next steps, which may include prohibiting entry to the dentist's office space until TCE concentrations in indoor air are reduced through the various mitigation systems to concentrations below the ARAL. The Property Owner shall inform the tenant of the agreed upon next steps.
- Once TCE concentrations in indoor air are below the ARAL, the Property Owner shall notify the tenant and the tenant may reoccupy the office space.

Reference

USEPA, 2014. *EPA Region 9 Response Action Levels and Recommendations to Address Near-Term Inhalation Exposures to TCE in Air from Subsurface Vapor Intrusion*. United States Environmental Protection Agency, Region 9, July 9, 2014.

19 October 2017

Mr. Mark Detterman
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

Subject: Sub-Slab Depressurization (SSD) Pilot Test Plan
13778 Doolittle Drive, San Leandro, California
(EKI B70097.00)

Dear Mr. Detterman:

On behalf of Marina Faire, LP, EKI Environment & Water, Inc. ("EKI"), formerly known as Erler & Kalinowski, Inc., submits this plan for performing a brief sub-slab depressurization ("SSD") pilot test in the former Four Seasons Cleaners dry cleaner space at 13778 Doolittle Drive in the Marina Faire shopping center, San Leandro, California (the "Site").

BACKGROUND

Volatile organic compounds ("VOCs") have been detected in soil, groundwater, and/or soil gas beneath the former dry cleaner space and adjoining units at the Site, as described in the *Remedial Progress Report* (RRM, 2017). The VOCs are primarily tetrachloroethene ("PCE") and to a lesser extent trichloroethene ("TCE") and other VOCs. Much of the soil that contains VOCs beneath the former dry cleaning unit has been excavated to a maximum depth of seven feet below ground surface ("bgs"), yet VOCs still remain in soil, groundwater, and soil gas in the area near the excavation. The soil excavation was backfilled and a layer of permeable crushed rock with a series of horizontal perforated vent pipes was installed in the top of the excavation, before the concrete floor was re-poured, to facilitate future implementation of SSD to mitigate the potential for VOC vapor intrusion into the building.

This letter presents a plan for briefly testing SSD using the existing sub-slab vent pipes to determine design parameters for a final SSD system.

SSD TEST PLAN

The layout of the buildings in the vicinity of the former dry cleaner is shown on Figure 1. The figure shows the locations of three 2-inch diameter perforated horizontal vent pipes that were installed below the floor slab in a 6-inch thick gravel layer above the area of the former excavation. The perforated pipes are connected to a sub-slab 2-inch diameter non-perforated header pipe that stubs up through the floor. The SSD test will be performed by connecting a temporary blower system (see below) to the stubbed-up pipe to withdraw soil gas from the sub-slab vent pipes.

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To measure effectiveness of SSD, ten sub-slab probes (“SSPs”) will be installed at the approximate locations shown on Figure 1. Each SSP will be a Vapor Pin[®], which is a stainless steel barbed fitting that is installed in a 5/8-inch diameter hole drilled through the floor (see Attachment A). The sub-slab vacuum created during the SSD test will be measured at each SSP before and during testing to determine the effect of the SSD system. The performance objective is to create a vacuum relative to indoor air of at least 4 Pascal, equivalent to 0.016 inches water column (“in-WC”), which has been found to be sufficient for effective SSD performance (DTSC, 2011).

The blower system for the testing will consist of two Ametek Windjammer model 119104 blowers, each rated for up to 120 cubic feet per minute (“cfm”) at open flow and vacuum as high as 66 in-WC, as shown in Attachment B. The two blowers will be combined in parallel to provide up to 200 cfm of test capacity. The exhaust of the SSD test system will be directed through granular activated carbon (“GAC”) for treatment. The test is anticipated to be conducted in one day.

The test will be performed in the following general sequence:

- The pressures in the SSPs relative to indoor air will be measured prior to starting the blower system to establish baseline conditions.
- The blower system will be started at full capacity to initiate the test. The flow rate and the suction at the blower inlet will be measured.
- Vacuum levels in the SSPs will be measured while the blower system is operating to see whether the target vacuum of 0.016 in-WC or higher is attained.
- The blower system may be adjusted to a lower flow rate and suction to test performance at a lower capacity. Vacuum levels in the SSPs will be re-measured under the new test conditions.
- A sample of the extracted soil gas will be collected in a pre-evacuated 1-liter summa-passivated stainless steel canister and submitted for laboratory analysis of VOCs using EPA Method TO-15.

The results of the testing will be used to:

- determine the lateral influence where the target vacuum of 0.016 in-WC or higher is attained by the SSD system;
- determine the flow rate and suction capacity required for a permanent blower for the SSD system;
- evaluate air permitting requirements based on the flow rate required for the final SSD system blower and the VOC concentrations measured in the extracted soil gases.

The results of the pilot testing will be presented in a Work Plan for a final SSD system.

Mr. Mark Detterman, ACDEH

19 October 2017

Page 3 of 3



If you have any questions or need additional information, please do not hesitate to call.

Very truly yours,

EKI ENVIRONMENT & WATER, INC.

A handwritten signature in black ink that reads 'Vera Nelson'.

Vera H. Nelson, P.E.

Vice-President

cc: Greg Lee
Julie D'Hondt
Ed Firestone

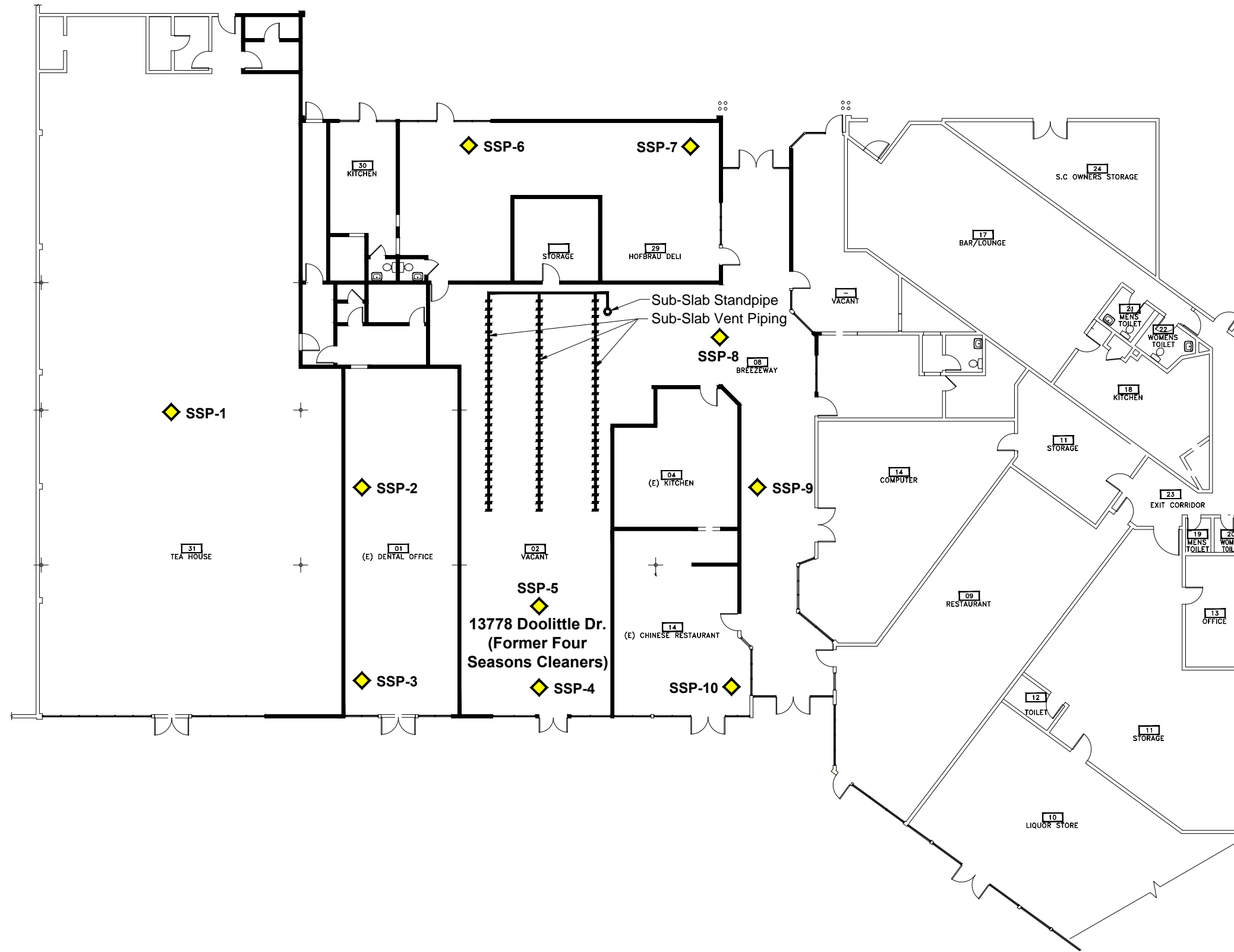
Attachments

Figure 1 Proposed SSD Pilot Test Layout
Attachment A Vapor Pins
Attachment B SSD Test Blowers

References

DTSC, 2011. *Vapor Intrusion Mitigation Advisory, Final, Revision 1*, Department of Toxic Substances Control, California Environmental Protection Agency, October 2011.
RRM, 2017. *Remedial Progress Report, Former Four Seasons Cleaners, 13778 Doolittle Drive, San Leandro, California*. RRM, Inc. (RRM), 27 September 2017.

20171004.10120506 G:\B70097.00\Converted Working Dwg\Figure 1.dwg Layout1



Legend:

◆ SSP-1 Proposed SSP Location

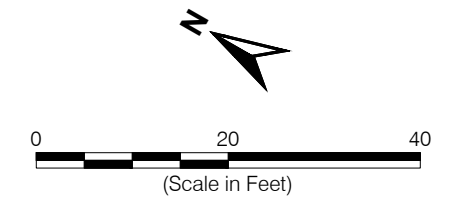
Abbreviations:

SSD = sub-slab depressurization

SSP = sub-slab probe

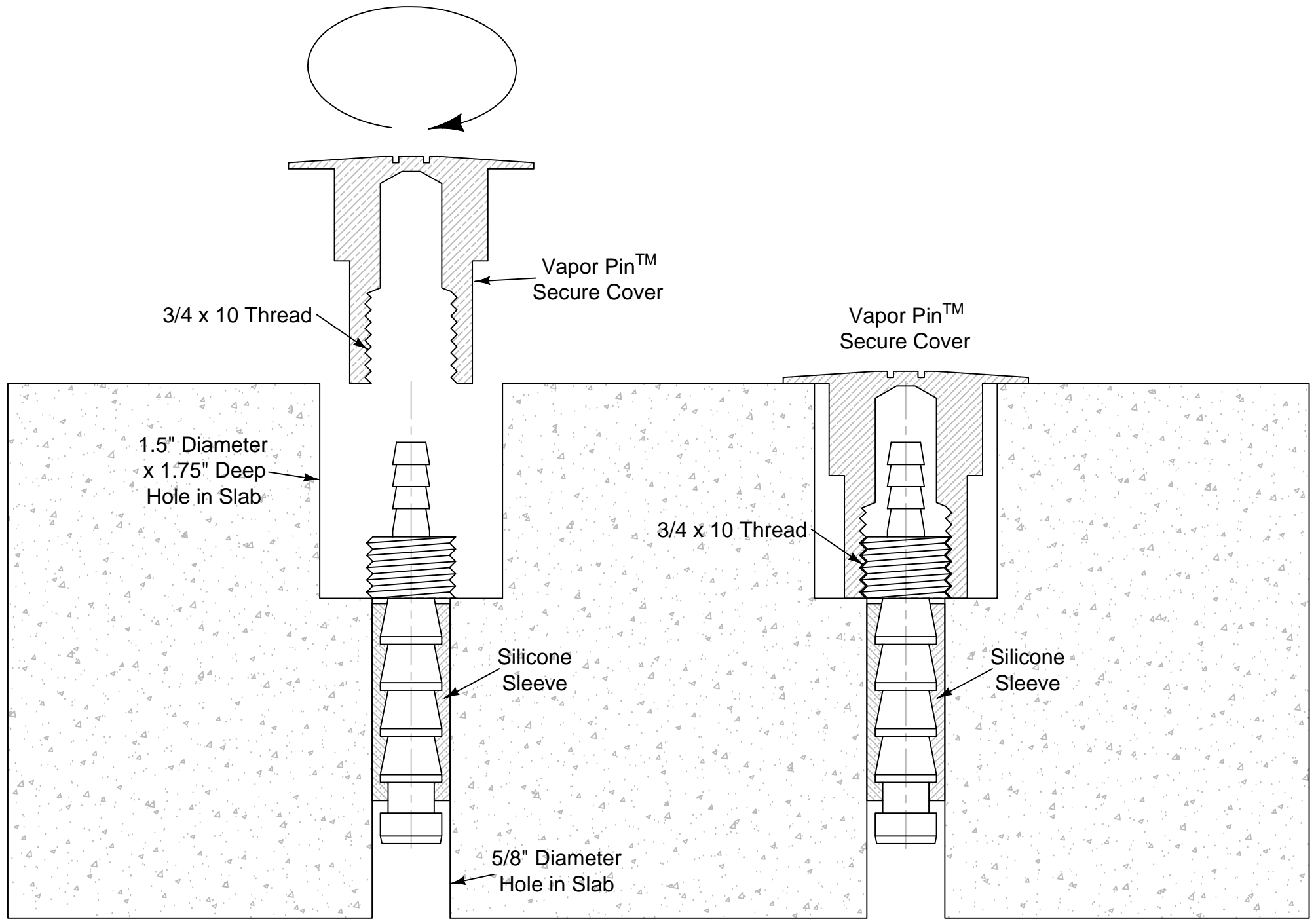
Notes:

1. All locations are approximate.
2. Actual SSP locations may be adjusted in field based on access and tenant preference.



Proposed SSD Pilot Test Layout

Attachment A
Vapor Pins

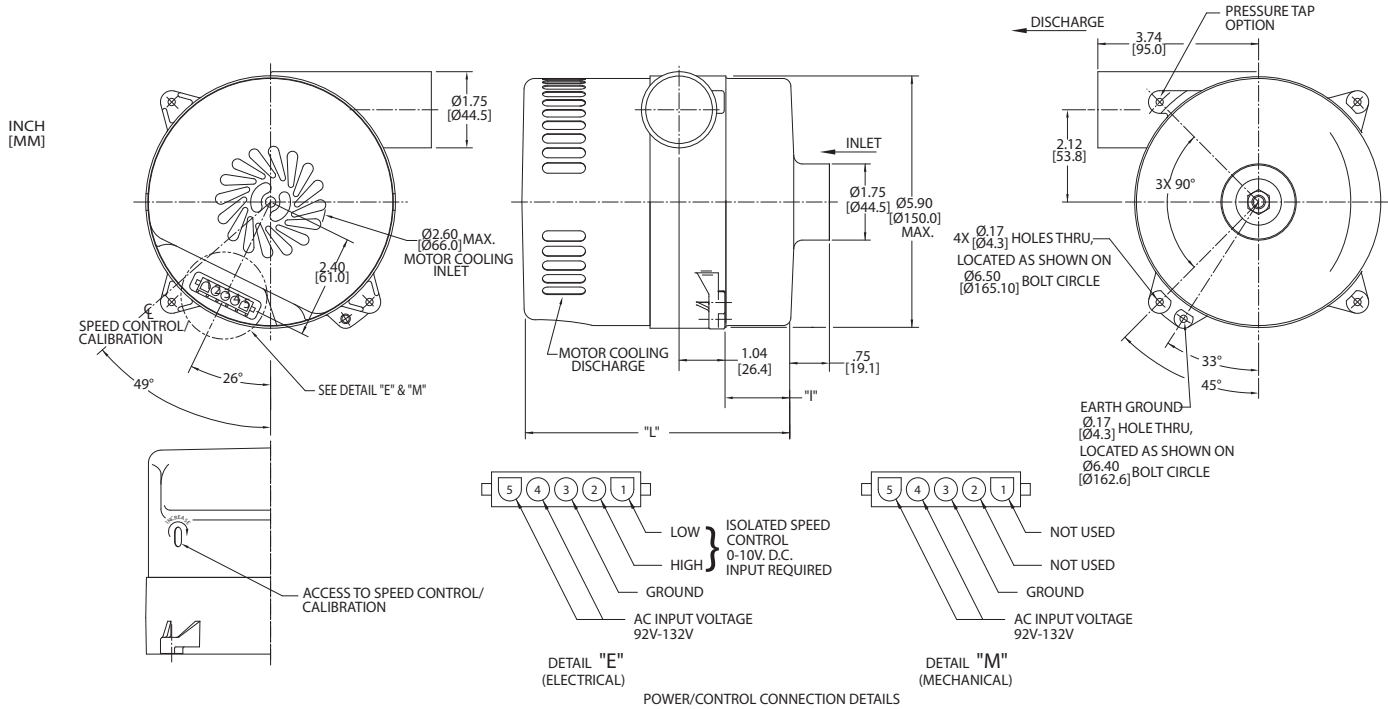


Attachment B
SSD Test Blowers

High Voltage Brushless DC Blowers

5.7" (145mm) BLDC Bypass Blower

800 Watt, 120 Volt High Flow - IntelliGen (TM)



Specification	Units	Part/ Model Number				
		119102	119101	119104	119103	119105
Stages	-	1	1	2	2	1
Max Sealed Vacuum	in. H2O	31	31	67	67	24
	mbar	77.2	77.2	166.9	166.9	59.8
Max Sealed Pressure	in. H2O	39	39	78	78	30
	mbar	97.1	97.1	194.3	194.3	74.7
Max Flow Rate	CFM	140	140	131	131	210
	m3/hr	238	238	222.7	222.7	357
Inlet/Outlet Diameter	Inches	1.75	1.75	1.75	1.75	2.75/2.50
	mm	44.5	44.5	44.5	44.5	69.9/63.5
Length (I)	Inches	.47	.47	1.53	1.53	.71
	mm	11.9	11.9	38.9	38.9	18
Length (L)	Inches	5.30	5.30	6.19	6.19	5.46
	mm	134.6	134.6	157.2	157.2	138.7
Speed Control	-	Mechanical	Electrical	Mechanical	Electrical	Electrical



Notes:

- Input Voltage Range:** 92-132 Volts AC RMS, 50/60 Hz, Single Phase, maximum running current 10 Amps RMS.
Note: Although this unit contains a lock-out feature that detects low voltage conditions, the electronics should not be operated continuously below the input voltage range listed above.
- Operating Temperature (Ambient Air and Working Air):** 0° C to 50° C
- Storage Temperature:** -40° C to 85° C (Internal electronic controller is thermally protected).
- Dielectric Testing:** 1500 Volts AC RMS 60 Hz applied for one second between input pins and ground, 3mA leakage maximum.
- Isolated Speed Control:**
Analog input voltage range: 2 to +10 VDC nominal (+13.5 VDC maximum).
Digital Pulse Input: 400 Hz to 20 KHz, 0 to +10 volt pulse nominal, minimum duty cycle 10%, 0 to +13.5 volt maximum.
Note: Setting of onboard potentiometer can effect control voltage range and maximum speed can be attained before reaching 10 VDC
- Speed Control Input Current:** 5 mA to 20mA at 10 Volts input with multi-turn potentiometer set to minimum resistance (fully clockwise).
- Speed Control Drift with Temperature:**
Analog Mode: Typ. +4% from nominal speed at +23 C.
Digital or Direct Mode: Typ. +4% from nominal speed at 23 C.
- Approximate Weight:** 6 Lbs. / 2.2 Kg.
- Regulatory Agency Certification:** Underwriters Laboratories, Inc. qualified per UL507 under File E-94403. Canadian Standards Association qualified per C22.2#113 under File LR 43448.
- Miscellaneous:** Intake and exhaust tubes, all cooling ducts and vents must not be obstructed. Intake and exhaust must be free of grease, oil and foreign particles. Amp housing 350809-1 with male pins on 16 awg lead wire (supplied by customer) mates with post header assembly.
Mating harness available upon request.

This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

AMETEK 2STG HF BP 800W BLOWER. MODEL 119104. MAX PERFORMANCE. 7-28-06.

