

# **FINAL ENGINEERING REPORT**

## **Re: SOIL VAPOR**

**40 Marbledale Road  
Tuckahoe, Westchester County, NY  
NYSDEC Site #V00237-3**

Prepared for:

Weissman Holdings, LLC  
Formerly Kings Electronics Co., Inc.

Prepared by:

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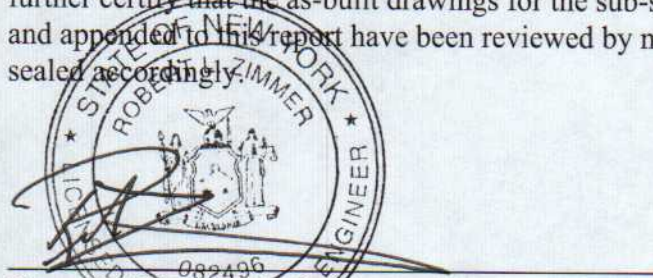
June 2009



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## Final Engineering Report Certification

I, Robert Zimmer, residing at 33 Main Drive, Greenwood Lake, NY, certify that I am currently a certified Professional Engineer in compliance with Article 145 of the NYS Education Law and further certify that the as-built drawings for the sub-slab depressurization systems described in and appended to this report have been reviewed by me, are true and accurate and are signed and sealed accordingly.



Geovation Engineering, P.C.  
Robert Zimmer, P.E.  
Principal Engineer-Engineer of Record  
NY PE License #082496

June 30, 2009



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#### **ADDENDA- Reports Previously Submitted to NYSDEC (included on enclosed CD)**

- 1 October 2004 Indoor Air Sampling & Analysis Report, EML
- 2 Revised Soil Gas Venting System, August 3, 2005
- 3 Comprehensive On-Site SSD Report, EML, May 2008



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**Final Engineering Report - SSD  
Weissman Holdings, LLC  
former Kings Electronics Co., Inc.  
40 Marbledale Road, Tuckahoe, NY  
NYSDEC Site #V00237-3**

## **1.0 INTRODUCTION**

Weissman Holdings, Inc., formerly Kings Electronics Co., Inc. (Kings) has installed a sub-slab depressurization (SSD) system at its former site, located at 40 Marbledale Road in Tuckahoe, New York (the Site). The SSD system was installed as a conservative measure instead of conducting a full scale New York State Department of Health soil vapor intrusion investigation. The Site has been converted to a storage facility currently owned and operated by Marbledale Road, LLC (Storage Deluxe).

On August 3, 2005, the New York State Department of Environmental Conservation (NYSDEC) approved a Mitigation System Work Plan for the installation of a SSD system at the Site. On January 19, 2006 the property was sold to Storage Deluxe, which undertook extensive interior demolition, renovation and conversion of the property for self-storage use. In coordination with Storage Deluxe's renovation activities, Kings' contractor, Mitigation Tech, installed the SSD systems in stages, as interior spaces were completed and utility services restored. Installation commenced in early 2007 and was substantially completed in late November. Following a short evaluation period that ended in March 2008 with the replacement of a failed fan impeller unit (in System 3 below), the systems were deemed fully operative by Kings. A report describing the on-site SSD system was prepared by Environmental Management, Ltd. in May 2008 (Addenda 3) and this report includes sketches of installed SSD systems and testing data used to verify system effectiveness.

## **2.0 SSD SYSTEM DESIGN AND INSTALLATION**

Field modification to adapt to the new interior configuration resulted in the installation of six independent systems, each with a single specially selected exterior fan providing suction to a network of multiple drop points, each located along the interior walls of rental storage units, and protected within sheet metal chases. A brief description of each of the six systems is provided below and as-built drawings of each system are provided in section 3.0 of this document. Testing results of the vacuum created by these systems which demonstrate their effectiveness are provided in Addenda 3.



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**System 1 (Building 1, Showroom):** This system consists of a high vacuum exterior fan (RADONAWAY HS-500) connected to a network of four drop points within constructed rental storage units occupying the rear of this building. Metal cages surround each drop point. A Magnehelic type manometer is mounted on the HVAC duct above the main aisle, where it is out of the way, yet visible at all times. As indicated above, this fan failed and was replaced on 11-13-08 and a routine system check on 5-21-09 confirmed that the replacement fan continues to operate properly.

**System 2 (Buildings 3 and 4):** This system consists of an exterior fan (Plastic Storm 12 with 3859 PM motor) installed at the rear of Building 4, connected to ten interior drop points within constructed rental storage spaces. Metal cages surround each drop point. Two of the drop points tap into pre-existing sealed sub slab trenches. The U-tube type manometer for this system is placed along a permanent concrete wall located along the main hallway of Building 4. The manometer is at a height of 8 feet, protected from traffic, accessible and readable at all times.

**System 3 (Buildings 2 and 4):** This system consists of an exterior fan (Plastic Storm 12 with 3859 PM motor) installed at the rear of Building 4, connected to six interior drop points within constructed rental storage spaces. Metal cages surround each drop point. One of the drop points taps into a pre-existing sealed sub slab trench which transects Building 2. The U-tube type manometer for this system is placed on the permanent wall along the public passageway adjacent to Locker 1025 in Building 2. The manometer is at a height of 8 feet, protected from traffic, accessible and readable at all times.

**System 4 (Buildings 5 and 6):** The system for these two buildings is served by an exterior fan (RADONAWAY GP-501) installed at the rear of Building 6 connected to a network of ten drop points within constructed rental units. Each drop point is protected by a metal cage. A proportioning valve balances the air flow from Building 5. A U-tube type manometer is mounted along the rear aisle of Building 6, on the down drop pipe above Locker 1311, where it is visible at all times, yet out of the way.

**System 5 (Building 7):** The system for this building consists of an exterior fan (Plastic Storm 12 with 3859 PM motor) connected to a drop point which is installed into a pre existing sealed sub-slab trench. This trench transects the width of the basement. A U-tube type manometer is mounted on the down drop pipe about 8 feet above the floor. A failed fan unit for this system was replaced on 1-9-09 and a routine system check on 5-21-09 confirmed that the replacement fan continues to operate properly.



**System 6 (Building 9):** The system for this building consists of an exterior fan (RADONAWAY GP-501) connected to a network of three drop points within constructed rental units. Each drop point pipe is protected by a metal cage. A U-tube manometer is mounted along the central aisle, above Locker 1432, where it is out of the way, yet visible at all times.

### **3.0 AS BUILT DRAWINGS AND FLOOR PLANS**

Included in this section are the certified as-built drawings of each of the six SSD systems, as well as floor plans of the entire Storage Deluxe facility, overlaid with color coded SSD system components showing their relationship to interior building structures. These drawings and floor plans (uncertified) were part of Kings' May 16, 2008 OM&M/Site Management Plan for the On-Site SSD System that was approved by NYSDEC on August 6, 2008.

