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April 6, 2017

David Szymanski
Department of Environmental Conservation
Division of Environmental Remediation
270 Michigan Avenue
Buffalo, New York 14203

Re: Building 5 and 6 Revised Soil Vapor Mitigation System Work Plan
Former Dowcraft Facility, Falconer, New York

Mr. Szymanski:

C&S Engineers (C&S) and Mitigation Tech offer an alternative approach to mitigating soil vapor impacts on Buildings 5 and 6 at the Jamestown Container Company (JCC) facility in Falconer, New York. On February 8, 2017 the New York State Department of Environmental Conservation (NYSDEC) approving C&S's work plan for the installation of sub-slab depressurization systems (SSDS) in Buildings 5, 6 and 9. On March 24, 2017, the SSDS for Building 9 was installed according to the approved work plan.

Buildings 5 and 6 are a particular challenge for installing the approved SSDS due to multiple factors that were presented to the NYSDEC and the New York State Department of Health (NYSDOH) during their site visit on March 28, 2017. These factors include the following:

- The high rate of air exchange within the building from the continuous operation of the Cyclone rooftop vacuum systems;
- Confined spaces underneath the majority of the floor within the building that are either open or partially backfilled with large debris; and
- Network of tunnel-like structures or arches supporting the floor.

Due to these constraining factors associated with the construction and use of Buildings 5 and 6, the SSDS designs within these buildings have been continually re-evaluated by Mitigation Tech to achieve reasonable performance goals for mitigating soil vapor impacts.

As discussed on March 28th, C&S and Mitigation Tech propose to mitigate soil vapor beneath the sub-slab of Buildings 5 and 6 using targeted SSDS in areas not impeded by sub-slab obstacles and the installation of a crawl space ventilation system in areas with sub-slab obstacles. The size and location of the SSDS will be determined in the field through sub-slab air communication testing prior to installation. The crawl space ventilation system (CVS) consists of two high air flow blowers located on the perimeter of Building 6. A detailed description of this revised system, developed by Mitigation Tech, for Buildings 5 and 6 is attached to this letter.

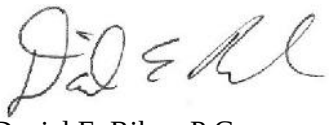
We request that NYSDEC and NYSDOH review the attached revised work plan for Buildings 5 and 6. As requested by the NYSDOH for the previously approved work plan, indoor air analytical sampling will be conducted after the SSDS / CVS is operational. These samples will assess the systems' impact on indoor air quality. A total of 9 indoor air locations and one outdoor air location will be sampled to evaluate indoor air quality. Future indoor air monitoring events will use the same locations to collect samples during the operation of the SSDS / CVS.

Should you have any questions regarding this work plan or the information contained herein, please feel free to contact me at (716) 847-1630.

Sincerely,

C&S ENGINEERS, INC.

Cody Martin
Environmental Scientist



Daniel E. Riker, P.G.
Managing Geologist

Enclosed: Mitigation Tech Revised Work Plan

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April 5, 2017

Mr. Cody Martin
Project Manager
C & S Companies
141 Elm Street, Suite 100
Buffalo, NY 14203
Via email: Cody Martin <cmartin@cscos.com>

Re: Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733
Revised Work Plan

Dear Mr. Martin,

Based additional building investigation and on our recent meeting with representatives of NYS DEC, we submit the following revised work plan:

1.0 Introduction

Soil vapor containing chlorinated volatile organic compounds has been detected at or near this site. This document presents a Work Plan that consists of the installation and operation of both a sub-slab depressurization system (SSDS) and a Crawlspace Ventilation System (CVS) that are designed to mitigate the migration or potential migration of sub surface vapors into the building interiors. The subject area is the foundation footprint of Buildings #5 and #6 of Jamestown Container Companies – 65 South Dow St., Falconer, NY 14733. The SSDS and CVS are intended to protect the occupants of the subject area and are not intended to remove or diminish the source of the contamination. After start-up, system effectiveness will be assessed and thereafter, a program of periodic maintenance and monitoring will be proposed. It is expected that oversight of construction, confirmation of effectiveness and post mitigation air sampling will be provided by *C & S Companies* under separate contract and at additional expense.

2.0 Objectives

This work plan was developed in general accordance with the NYS DOH document, "Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006". The performance objective of the SSDS is to create and maintain a minimum negative pressure differential of .002 inches of water column (wci) below the southernmost concrete slab sections of Building #5, which function as boundaries between subject area sub-slab space and occupied interior space. The performance objective of the CVS is to create continuous air exchange with outside air in the Building #6 crawlspace beneath the ground level concrete slab.

Both building #5 and #6 are characterized mostly by systems of sub-slab structural arches and grade beams crisscrossing in a north to south and east to west pattern.

In the case of Building #5, extensive backfilling has occurred over time, mostly via concrete patch, so that soil is present immediately below the surface. Four east to west grade beams define five compartments. A reasonably scaled soil vapor intrusion mitigation system is proposed that would furnish depressurization in the southernmost sub-slab compartment bounded by Buildings # 4 and #6.

This would constitute a line of defense to intercept soil vapor migrating from the south. Some limited depressurization may be created north of the first grade beam. The exact northern boundary of the pressure extension field cannot be predicted prior to construction of the proposed system.

In the case of Building #6, several complicating factors (see sec 3.2 below) are present and the construction of an SSDS is judged to be impracticable. We judge that most of the sub-space of Building #6 is in essence a crawlspace and that ventilation is the most appropriate strategy to divert vapors from the building interior. A portion of Building #6 that includes the office area does not have a crawlspace, and SSDS is proposed for that area.

Therefore this proposal advocates a mixed and balanced soil vapor intrusion mitigation strategy, wherein measures most likely to yield good outcomes efficiently are applied first. If desired, additional measures at additional expense would further mitigate vapor intrusion. We would specify these measures exactly based on information obtained during the first phase. We have proposed this strategy because it provides a reasonable response to the degree of known contamination and may well be sufficient by itself. In the event testing shows that additional measures are required, such measures would be incremental to work already performed and therefore no work done under this proposed phase would be inappropriate or wasteful.

3.0 Work Plan Design and Specifications

3.1 Overview

Work descriptions are based on certain assumptions identified herein and are subject to modification based on further field observations and measurements before and during construction. In the interest of achieving efficiency of design, this Work Plan is presented on a "Design/Build" basis which allows for adjustment to quantity, type and placement of system components. Adjustments are informed by analysis of data continuously obtained during construction.

3.2 Pre-design Communication Testing

The enclosed system configuration is informed by a general building assessment and sub-slab air communication testing performed August 19, 2016 and subsequently, deemed necessary to determine the most efficient system configuration. Included were interviews of key site personnel, document and historical photograph review, although no foundation plans were available. The test procedure (Building #5) included drilling into the concrete at likely suction cavity locations and applying a vacuum to simulate operation of an SSDS fan. Small diameter test holes were established to measure vacuum influence. The enclosed design is a result of weighing key elements (fan type, suction point location, pipe diameter, etc.) against the cost of different construction techniques and materials.

Also included was assessment of the confined space beneath a small portion of Building #5 and Building #6. There is a network of tunnel like structures supporting the floor, some partially backfilled and some with open voids. In some cases, the voids taper down to less than a foot. Standing water, silt, large scale debris and other obstacles to work are present. The floor of this space was observed to be difficult to access and in many cases degraded. As a consequence, depressurization of the sub-slab of the confined space is judged to be impracticable.

Another factor is the continuous operation of *Cyclone* type rooftop vacuum systems. These systems collect scraps of cardboard generated during production and are always running during plant operation. They create a vacuum in the building by generating air flow exhaust on the order of 5000 CFM. These systems introduce high rate of building air exchange and also potentially interfere with the operation of

sub-slab depressurization systems. Compensation for this effect includes establishment and maintenance of secure boundaries between ambient and sub-slab air.

3.3 Scope of Work

The Scope of Work is to furnish and install 1) a multi-point active sub-slab depressurization system in Building #5 and a crawl space ventilation system in Building #6. At conclusion, documentation will be provided showing the pressure field extension or air exchange values. The system configuration is subject to change based on field observations made during construction.

Furnish and Install:

- **Building 5 - east to west space defined by south perimeter wall and southernmost east to west interior footer**
- (1) OBAR GBR 76 or 89 high performance radial blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 4" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust; with mounting frame and rubber connector fittings
- (5-6) Suction points, with risers surface mounted on south wall, 3" Schedule 40 PVC pipe
- **Building 6 - (includes influence at Building #5 sump room)**
- (2) RADONAWAY RP-380 high air flow blowers [or as indicated by field testing], roof mount or sidewall mount, to provide sub-slab ventilation via 8" schedule 40 PVC; to conduct soil vapor from riser pipes to exhaust fan roof exhaust, with penetration through main roof deck; with rubber connector fittings
- Sub floor ducting
- Evaluate and repair as necessary, north side foundation vents and openings
- **Building 6 - (includes portion office area not over crawl space)**
- (1) RADONAWAY HS-5000 blower [or as indicated by field testing], roof mount or sidewall mount on south side, to provide sub-slab depressurization via 3" schedule 40 PVC trunk line to conduct soil vapor from riser pipes to exhaust fan roof exhaust; with mounting frame and rubber connector fittings
- (2-3) Suction points, with risers surface mounted on south wall, 3" Schedule 40 PVC pipe
- **Common Elements:**
- Continuous building assessment and sub-slab vacuum measurement to optimize design and meet stated objectives
- Pre-construction consultation to obtain approval for component placements
- All interior pipe SCH 40 PVC with appropriate metal hangers, riser clamps, and additional accessories to properly attach components directly to structural members; sloped as required; routing to avoid interference with other building systems
- Fire stop devices and other fire code compliance measures
- Suction cavities to consist of approximately 1 cu. ft. excavated material in sub-slab, with urethane seal; access hole to suction cavity by 5"core drill or hand drill; trenching around footers where required, with concrete restoration
- Proportioning valves for suction risers where required
- All exhaust points minimum 10' from any air intakes
- Exterior-interior penetrations shall have appropriate sealing systems
- Mobilization and Demobilization per work shift, with daily temporary restorations and basic dust control measures
- Exterior switch and *Sealtight* and/or MC conduit from fan housing to nearest electrical panel; extra cost if panel has insufficient capacity; final panel hookup by others at other's expense

- Vacuum indicator, (1) per system
- Urethane sealant at slab joints, accessible cracks and penetrations; backer where necessary
- Horizontal pipe at highest practicable height , with metal bracketing, sloped as required, with valves or restrictor plates as required
- Consult with occupant to minimize disruption to operations and provide access to work areas
- At completion, perform backdraft testing, label components and provide system description and operating instructions
- At completion, measure and document pressure differentials and airflow volumes
- Consult with client representatives to develop operation, maintenance and periodic inspection plan
- Two year warranty; labor, installed components and sub-slab depressurization to objective (or greater)

3.4 Post Installation Pressure Field Extension Testing

A digital micromanometer will be used to measure pressure differentials and values will be recorded on a floor plan. All test holes will be repaired with urethane caulk (MSDS available) applied over a closed cell backer rod. Smoke tubes will be used to identify floor cracks and other openings to the sub-slab that could "short circuit" the pressure field. Backdrafting testing will be performed.

3.5 General Work Plan Provisions

- Daily tailgate meeting for safety review
- HAZWOPER trained personnel to perform drilling operations
- PID or Particulate monitoring not included
- Level 4 PPE for on-site personnel
- Procedures to follow site specific HASP

3.6 IRM Construction Completion Report

At conclusion of construction, a Construction Completion Report (CCR) will be submitted. This report will include an as-built sketch or an overlay of client furnished building drawings, showing SSDS locations and components. The CCR will include measurements of created sub-slab to ambient air static pressure differentials, detailed descriptions of SSDS components, and post-installation sampling results.

An Operations, Maintenance, and Monitoring (OM&M) Plan will be submitted with the CCR. The OM&M Plan will be provided to the owner and occupants to facilitate their understanding of the system's operation, maintenance and monitoring. Future maintenance and monitoring will be proposed to verify system effectiveness by inspection procedures and measurements.

Thank you.

Nicholas E. Mouganis EPA listing # 15415-I; NEHA ID# 100722