February 23, 2024 File No. 25224087.00

Mr. Jeff Ackerman Wisconsin Department of Natural Resources 3911 Fish Hatchery Road Madison, WI 53711

Subject: Vapor Mitigation System Documentation Platteville Cleaners 250 West Main Street, Platteville, WI BRRTS No. 02-22-550753

Dear Mr. Ackerman:

SCS Engineers (SCS) is providing the following report for a vapor mitigation system (VMS) installed at Platteville Cleaners, 250 West Main Street, Platteville, Wisconsin (**Figure 1**). The report summarizes VMS construction details and maintenance activities. We request your approval of the VMS construction, testing, and maintenance plan.

#### BACKGROUND

The VMS was installed to depressurize the building sub-slab to prevent the migration of soil gas with chlorinated volatile organic compounds (CVOCs) from migrating into the building. Residual CVOCs are present in soil gas due to a historic dry cleaning solvent spill, which was investigated and cleaned up under the supervision of the Wisconsin Department of Natural Resources Bureau of Remediation and Redevelopment.

The dry cleaner case was closed out by the WDNR in May 2021 with a continuing obligation to address underlying soil gas if dry cleaning operations were to be terminated. Platteville Cleaners installed the VMS to address this continuing obligation so the property could be used for purposes other than dry cleaning operations. Additional details regarding the case are provided in the Bureau for Remediation and Redevelopment Tracking System (BRRTS) on the Web (BOTW) under BRRTS No. 02-22-550753.

#### VAPOR MITIGATION SYSTEM CONSTRUCTION

The VMS was installed by RAM Services LLC of Sherrill, Iowa, on January 31, 2024. The work was performed by an Iowa-credentialed radon mitigation specialist, certification # RNMIT09094. System details are provided on **Figure 1**. Photos of the VMS are included in **Attachment A**.

The work included construction of two vacuum pickup points through the building floor slab, installation of pickup point piping and a radon fan, installation of a VMS vacuum manometer, electrical work to power the fan, and sub-slab pressure field extension (PFE) testing to verify adequate sub-slab vacuum distribution. VMS vacuum is supplied by a Fiesta Manufacturing Enterprises LLC AMG Eagle Extreme radon fan, capable of producing up to 4 inches of water column (WC) vacuum.



Mr. Jeff Ackerman February 23, 2024 Page 2

The VMS was temporarily powered up following installation on January 31, 2024, to conduct PFE testing. Permanent power connections were made and the system was started up on February 11, 2024.

PFE vacuum observation points include the VMS pickup point manometer and three temporary vacuum observation points (VOP-1 through VOP-3) drilled through the building floor slab using a rotary hammer and small-diameter bit. Sub-slab vacuums at the temporary points were measured by Platteville Cleaners using a UEi Test Instruments Model EM2901B digital manometer capable of measuring vacuum to 0.001 inches of WC vacuum. Vacuum observation points are shown on **Figure 1**.

#### PRESSURE FIELD EXTENSION TESTING

PFE testing results were reported as follows:

Vacuum Observation Point	Vacuum, Inches WC
Manometer, Pickup Point #1	3.9
Vacuum Observation Point #1	0.019
Vacuum Observation Point #2	0.152
Vacuum Observation Point #3	0.025

The PFE test results indicate good vacuum under the floor slab with vacuums ranging from 0.019 to 3.9 inches WC. The PFE vacuums exceed WDNR's depressurization performance standard of 0.004 inches WC. Based on the post-mitigation testing, it appears that the two VMSs are operating as intended.

#### **OPERATION MONITORING AND MAINTENANCE**

A VMS maintenance plan is provided in Attachment B.

Please contact Robert Langdon at (608) 212-3995 if you have any questions concerning this letter.

Sincerely,

Robert Langdon Senior Project Manager SCS Engineers

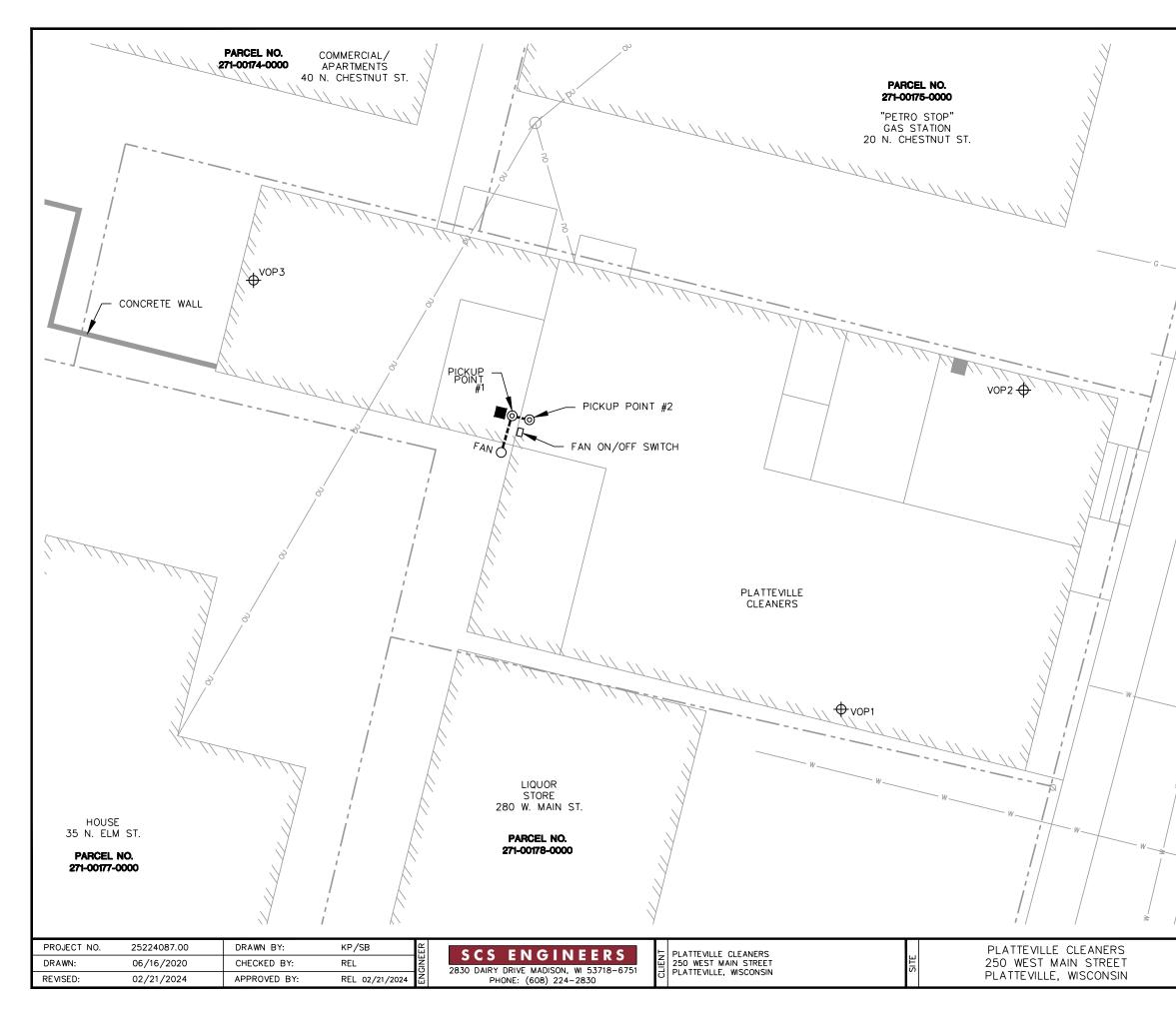
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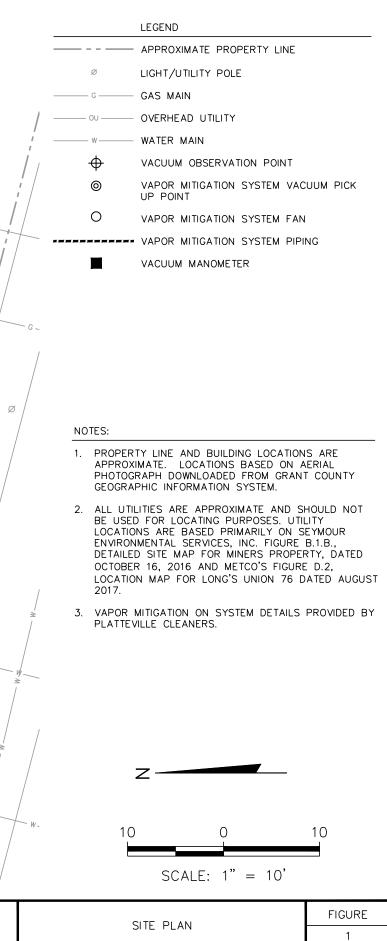
Ray Tierney, PG Project Director

SCS Engineers

Attachments: Figure 1 – Site Plan Attachment A – Photos Attachment B – Maintenance Plan

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Attachment A

Photos



Photo 1: Pickup Point 1. January 31, 2024.

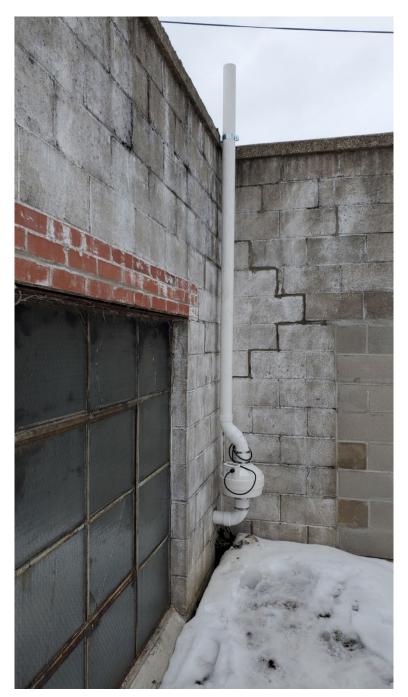


Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

Photo 2: Pickup Point 1 manometer. January 31, 2024.



Photo 3: Pickup Point 2. January 31, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 4:** Fan and Exhaust Piping. January 31, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 5:** Vacuum Observation Point 1. January 31, 2024.



Photo 6: Vacuum Observation Point 2. January 31, 2024.



**Photo 7:** Vacuum Observation Point 3. January 31, 2024.



Photo 8: Fan Electrical Connection. February 21, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 9:** Fan On/Off Switch. February 21, 2024.

Attachment B

Maintenance Plan

### VAPOR MITIGATION SYSTEM MAINTENANCE PLAN

250 West Main Street, Platteville, Wisconsin

February 23, 2024

Property Located at: 250 West Main Street, Platteville, Wisconsin 53818

WDNR BRRTS/Activity # 02-22-550753

Parcel ID # 271-00176-0000

### INTRODUCTION

This document is the Maintenance Plan for an active vapor mitigation system (VMS) at the abovereferenced property in accordance with the requirements of s. NR 724.13 (2), Wisconsin Administrative Code (Wis. Adm. Code). More site-specific information about this property may be found in:

- The case file in the Wisconsin Department of Natural Resources (WDNR) South Central Region office
- BRRTS on the Web (WDNR's internet-based database of contaminated sites) for the link to a PDF for site-specific information at the time of closure and on continuing obligations
- RR Sites Map/GIS Registry layer for a map view of the site
- The WDNR project manager for Grant County

#### Descriptions

#### System Description, Purpose, and Location

The VMS was constructed by RAM Services LLC of Sherrill, Iowa, on January 31, 2024. The work was performed by an Iowa-credentialed radon mitigation specialist, certification # RNMIT09094. The VMS was designed to reduce the potential for vapor intrusion by depressurizing the building sub-slab where dry cleaning solvent (PCE) vapor was detected in underlying soil gas in excess of the WDNR's vapor risk screening level. The PCE vapor resulted from a historic release of dry cleaning solvent at the facility. VMS components are shown on **Figure 1**.

#### System Design and Construction Documentation

Photographs of the VMS are included in **Attachment 1**. The VMS construction included installation of two vacuum pickup points, which were constructed with 4-inch-diameter schedule 40 PVC pipe and sealed into the building floor slab. The pickup points were plumbed together and connected to a PVC pipe that extends through the building wall and above the roofline at the east side of the building. A Fiesta Manufacturing Enterprises LLC AMG Eagle Extreme radon fan, capable of producing up to 4 inches of water column (WC) vacuum was mounted to the exterior pipe. The fan can be turned on and off from a switch located adjacent to Pickup Point #2.

A manometer was fitted to the northernmost pickup point (Pickup Point #1) to show vacuum at the pickup points and to check fan operation. At startup the manometer read approximately 3.9 inches WC, which is at the upper end of the fan range.

Vapor Mitigation System Maintenance Plan 250 West Main Street, Platteville, Wisconsin Page 2

#### **System Maintenance**

Minimal operator control or maintenance is required. There are no service requirements for the fan. The fan status is checked using the manometer mounted on Pickup Point #1.

The potential for vapor intrusion should be reevaluated if there are changes to the floor, HVAC system, or other changes that may influence the VMS sub-slab vacuum distribution. If changes are made, pressure field extension testing of the sub-slab should be completed to make sure that adequate sub-slab vacuum is maintained.

Malfunctioning or damaged system components should be replaced as soon as possible, and any changes or repairs should be documented in the attached inspection and maintenance log (Attachment 2).

#### Inspections

The VMS manometer should be inspected monthly as follows:

- Inspect manometer:
  - If manometer vacuum reads zero:
    - Check to make sure the tube from the manometer to the pickup point is properly seated and sealed into the manometer and pickup point. Reseat/reseal with silicone calk as necessary.
    - Check the on/off switch next to Pickup Point #2 to make sure the fan has power.
    - Check to make sure the fan power cord is connected to the exterior weatherproof outlet.
  - If manometer shows low vacuum (e.g., less than 1.5 inch of WC) check for vacuum leaks in the manometer tubing as noted above or pickup point piping and repair as necessary.
  - If fan vacuum cannot be rectified contact a radon mitigation contractor.
- Record manometer readings on Form 4400-321, Vapor Mitigation System Inspection Log (Attachment 2).

The remaining items should be inspected at least once per year during the heating season (e.g., December) as follows:

- Inspect fan exhaust line to prevent clogging of fan exhaust, and remove any accumulated debris.
- Inspect floors and maintain as necessary to prevent vapor migration and vacuum loss.
- Document repairs to the VMS, floors, or HVAC system on Form 4400-321, Vapor Mitigation System Inspection Log (Attachment 2).

Vapor Mitigation System Maintenance Plan 250 West Main Street, Platteville, Wisconsin Page 3

• Keep copies of the Vapor Mitigation System Inspection Log at the building and available for submittal or inspection by WDNR representatives upon request.

Any system components found to be ineffective or malfunctioning need to be replaced immediately by a mitigation professional and the system recommissioned, documented, with the documentation stored on site with the inspection information. Any changes need to be communicated with WDNR (ideally in advance).

A copy of the Maintenance Plan should be put in a plastic sleeve and zip-tied to the VMS piping at Pickup Point #1.

# Prohibition of Activities and Notification of WDNR Prior to Actions Affecting the VMS

The following activities are prohibited unless prior written approval has been obtained from the WDNR:

- 1. Shutdown or removal of the VMS.
- 2. Replacement of the VMS, other than replacement of the vacuum fan.
- 3. Construction or placement of a building or other structure.

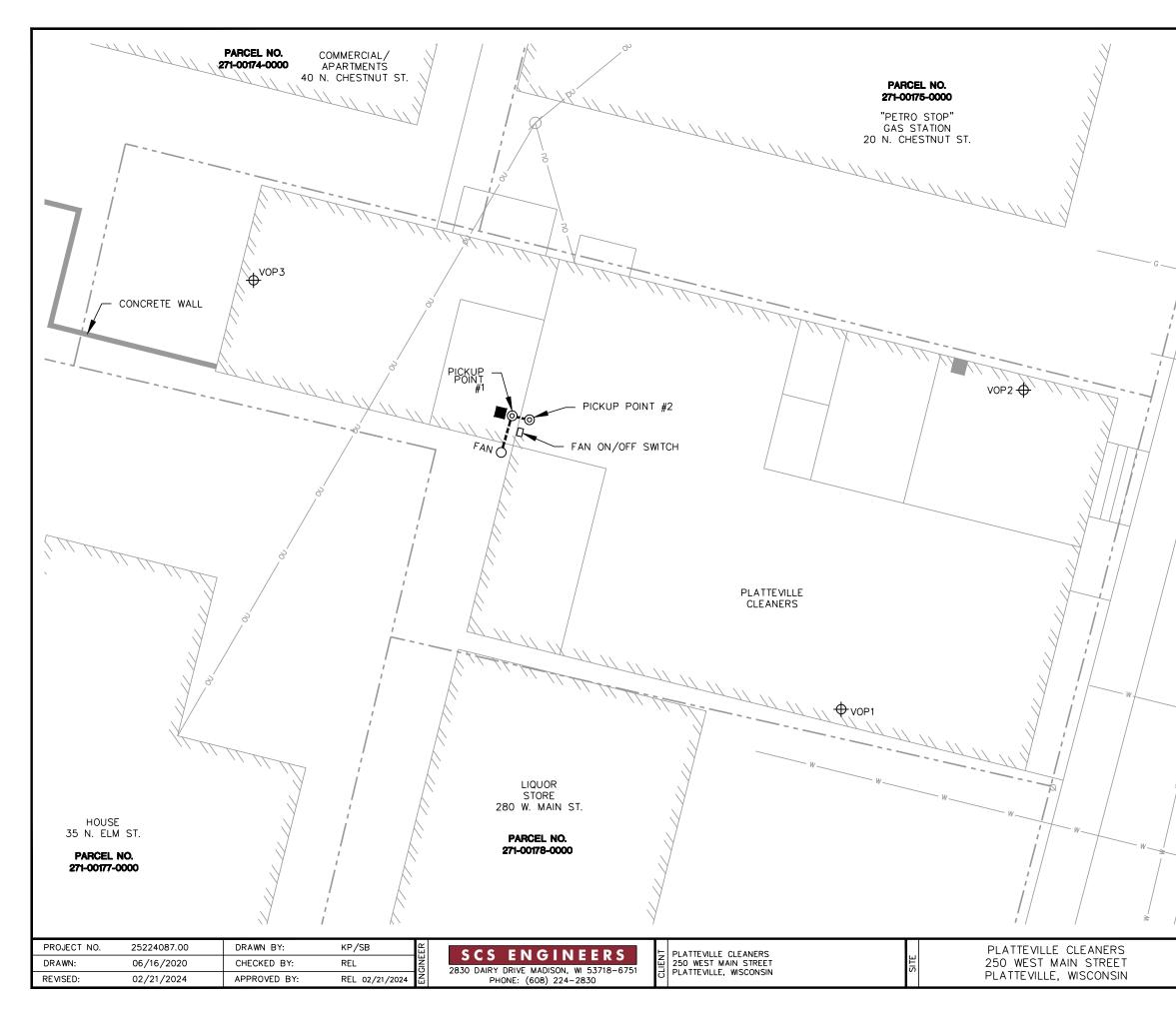
If removal, replacement, or other changes are considered, the property owner will contact WDNR at least 45 days before taking such an action, to determine whether further action may be necessary to protect human health, safety, or welfare or the environment, in accordance with s. NR 727.07, Wis. Adm. Code.

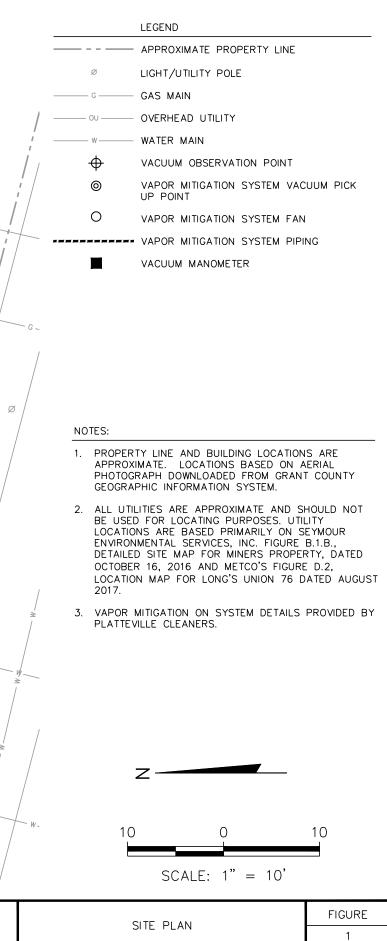
#### Amendment or Withdrawal of Maintenance Plan

This Maintenance Plan can be amended or withdrawn by the property owner and its successors with the written approval of WDNR.

#### **Contact Information**

Property Owner:	Tim Koeller, Platteville Cleaners 250 West Main Street Platteville, WI 53818 (608) 778-0091 timkoeller@hotmail.com
Consultant:	Robert Langdon, SCS Engineers 2830 Dairy Drive Madison, WI 53718 (608) 224-2830 rlangdon@scsengineers.com
WDNR:	Jeff Ackerman, WDNR 3911 Fish Hatchery Rd Fitchburg, WI 53711-5367 (608) 219-2302 Jeffrey.Ackerman@wisconsin.gov





## ATTACHMENT 1

Photos



Photo 1: Pickup Point 1. January 31, 2024.

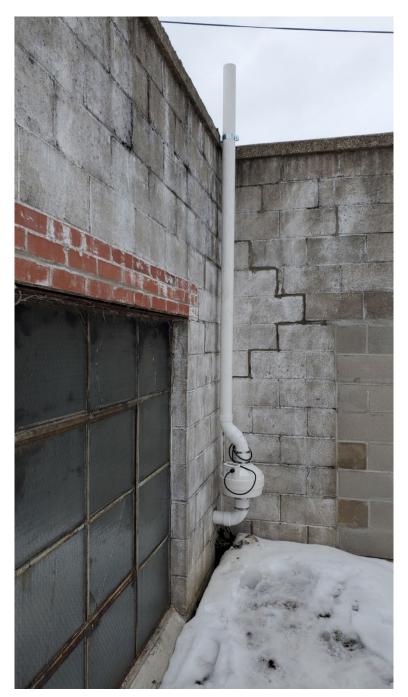


Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

Photo 2: Pickup Point 1 manometer. January 31, 2024.



Photo 3: Pickup Point 2. January 31, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 4:** Fan and Exhaust Piping. January 31, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 5:** Vacuum Observation Point 1. January 31, 2024.



Photo 6: Vacuum Observation Point 2. January 31, 2024.



**Photo 7:** Vacuum Observation Point 3. January 31, 2024.



Photo 8: Fan Electrical Connection. February 21, 2024.



Vapor Mitigation System Installation 250 West Main Street, Platteville, Wisconsin SCS Engineers Project #25224087.00

**Photo 9:** Fan On/Off Switch. February 21, 2024.

## ATTACHMENT 2

# Vapor Mitigation System Inspection Log

State of Wisconsin Department of Natural Resources <u>dnr.wi.gov</u>

#### Vapor Mitigation System Inspection Log

Form 4400-321 (R 03/22)

Page 1 of 7

**Notice:** In accordance with s. NR 727.05(1)(b)3., Wis. Admin. Code, use of this form for documenting the inspections and maintenance of certain vapor-related continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records law [ss. 19.31-19.39, Wis. Stats.].

**Directions**: This form was developed to provide the results of a site inspection of a vapor related continuing obligation, typically a vapor mitigation system. See the approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the approval letter. The letter may be found in the database, <u>BRRTS on the Web</u>, by searching for the site using the BRRTS ID number and then looking in the "Action" section for code 56.

Activity (Site) Name: Platteville Cleaners BRRTS No.: 02-22-550753

Address Being Inspected (e.g., 123 N. Main St.):	250 West Main Street, Plattevillle, Wisconsin	Date of Inspection:	
Increasing Deutenmand Dy (Norma 8 Title/Company)			

Inspection Performed By (Name & Title/Company):

When submittal of this form is required, submit an electronic version or a scanned copy of this completed form to the RR Submittal Portal.

#### HOW TO USE THIS FORM

The Activity (Site) Name, BRRTS No., Address Being Inspected and Date of Inspection entered above will auto-populate the table. Complete only the applicable rows/components. Check "Not Applicable" for components that do not apply. For example, if there is no sump sealed and vented as part of the system, check "Not Applicable" in the "NOTES" section for that component.

Multiple components: For systems with multiple components (e.g., two manometers or two fans), add an additional row for that component by clicking the "+" (plus) symbol at the end of the row. After a system component row is added, a "-" (minus) symbol is shown so the added row may be deleted.

**Photos:** Click on the placeholder photo shown in each row to replace it with your own site-specific photo. Site-specific photos are optional but strongly recommended. Enter specific details and observations within the "NOTES" section to assist the DNR in understanding status of the system components.

SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Manometer or Differential Pressure Gauge	Measures differential pressure between vacuum side of vent pipe and indoor space. This measurement confirms there is a vacuum being pulled by the fan.	Liquid Level on Manometer or Gauge	Liquid level in manometer should be offset (not level with each other).	A change in liquid level indicates a change in the vacuum below foundation. This could be caused by failure of fan, blockage of vent pipe, change in water level below building, or other conditions. Hire a professional to identify cause and repair if needed.
		NOTES: (Record the reading	g on the gauge. Identify specific building and location description:)	

Site Name: Platteville Cleaners

# Vapor Mitigation System Inspection LogForm 4400-321 (R 03/22)Page 2 of 7

Address Being Inspected:	250 West Main Street, Plattevill	e, Wisconsin

SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Fan	Fan creates a vacuum and lowers pressure below foundation. The fan also removes soil gases from below foundation for discharge to atmosphere.	Fan Operation Fan Location Motor Noise	Fan is on. Fan mounted outside & secure. Fan motor is quiet (loud motor may indicate problem).	Replace the fan immediately once the fan stops running. Fans typically run for 10-20 years, but it may be less. Replacement fan to have similar specifications as original with respect to flow and vacuum. After a fan is replaced, the system should be evaluated by a mitigation professional to verify effectiveness, which includes pressure readings. <b>Original Fan Make and Model:</b>
РНОТО			NOTES: (Identify specific bui	Iding and location description:)
Optional: Click on photo to upload your own.			Not Applicable	

Site Name: Platteville Cleaners

### Vapor Mitigation System Inspection Log

Form 4400-321 (R 03/22)

Page 3 of 7

Address Being Inspected: 250 West Main Street, Plattevillle, Wisconsin

SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
	<b>Suction Point :</b> Soil gases are collected in a void space below the foundation, and tight seal prevents	Suction Point Seal	Seal is air tight around pipe penetration.	replaced if cracks or leaks appear.
Suction Drop Point w/	soil gas from getting inside the home.			If any piping or sealing of the system is altered or replaced, the
Vent Pipe	<b>Vent Pipe:</b> Pipe conveys the vacuum from the fan, and collects soil gases for discharge to the atmosphere.	Vent Pipe Condition	Vent pipe is connected to fan, has not cracked.	system should be evaluated by a mitigation professional to verify effectiveness, which includes pressure readings.
РНОТО			NOTES: (Identify specific buil	lding and location description:)
and the second se			Not Applicable	
Optional: Click on photo to upload your own.				

#### Site Name: Platteville Cleaners

# Vapor Mitigation System Inspection LogForm 4400-321 (R 03/22)Page 4 of 7

Address Being Inspected:	250 West Main Street, Plattevill	le, Wisconsin		
SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Sealed Sump w/Vent Pipe	Sump Cover: Soil gases are collected in sump and the cover prevents soil gas from getting inside home. Vent Pipe: Pipe transports the soil gas from the sump for discharge to the atmosphere.	Suction Point Seal Vent Pipe Seal Condition	Seal is airtight to floor. Vent pipe is connected to the sump cover and is not cracked.	Sump cover or vent pipe may need to be sealed or replaced if cracks or leaks appear. If any piping or sealing of the system is altered or replaced, the system should be evaluated by a plumber or a mitigation professional to verify effectiveness, which includes pressure readings.
РНОТО			NOTES: (Identify specific bui	ilding and location description:)
Optional: Click on photo to upload your own.			Not Applicable	

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BRRTS No. 02-22-550	753			Vapor Mitigation System Inspection Log
Site Name: Platteville	Cleaners			Form 4400-321 (R 03/22) Page 5 of 7
Address Being Inspected:	250 West Main Street, Plattevill	le, Wisconsin		
SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Outdoor Vent Pipe	Pipe transports the soil gas from beneath the foundation for discharge to the atmosphere.	Vent Pipe Condition	Vent pipe remains connected to fan. End of pipe free from obstructions. The exhaust is more than 15 feet from windows or air intakes.	Vent pipe may require replacement, or cleaning to remove ice or debris. If any piping or sealing of the system is altered or replaced, the system should be evaluated by a mitigation professional to verify effectiveness, which includes pressure readings.
РНОТО	РНОТО		NOTES: (Identify specific bui	Iding and location description:)
Option al: Click on photo up your o'n.	load		Not Applicable	

Site Name: Platteville Cleaners

#### Vapor Mitigation System Inspection Log

Form 4400-321 (R 03/22)

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Address Being Inspected: 250 West Main Street, Platteville, Wisconsin

SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
	Foundation is a barrier that minimizes soil gas entry into building, and helps	Foundation Condition	No penetrating cracks or holes in foundation.	Seal cracks or other penetrations as you would to prevent water from entering.
Foundation Floor	fan to work efficiently.	Foundation Footprint	Check if there have been alterations or additions to building or footprint.	If building floor plan has changed, notify DNR and contact a mitigation professional to evaluate if modifications to the vapor mitigation system are necessary.
РНОТО		•	NOTES: (Identify specific bui	Iding and location description:)
PHOTO Optional: Click on photo to upload your own.		Not Applicable		

#### Vapor Mitigation System Inspection Log

Form 4400-321 (R 03/22)

Page 7 of 7

Address Being Inspected: 250 West Main Street, Plattevillle, Wisconsin

SYSTEM COMPONENT				Date of Inspection:
NAME	WHAT DOES IT DO?	WHAT DO I CHECK?	WHAT SHOULD I SEE?	WHAT TO FIX?
Sub Slab Vapor Port	This is a sample port to measure vacuum or take sample of soil gas if needed. It needs to remain sealed when not in use to prevent soil gas entry into the home.	Port Seal/Cap	If able to measure the vacuum with a micromano- meter, the pressure differen- tial should be at least 0.004 inches of $H_2O$ or at least one Pascal.	Repair or replace the seal and cover as needed.
		Port Condition	Port is sealed and capped when not in use.	Permanently seal hole if sample port is ever removed.
PHOTO Optional: Click on photo to up your own.	load		NOTES: (If taken, record the description:)	pressure differential reading. Identify specific building and location

#### Site Name: Platteville Cleaners