

SUBMIT AS UNBOUND PACKAGE IN THE ORDER SHOWN

Notice: Pursuant to ch. 292, Wis. Stats., and chs. NR 726 and 746, Wis. Adm. Code, this form is required to be completed for case closure requests. The closure of a case means that the Department of Natural Resources (DNR) has determined that no further response is required at that time based on the information that has been submitted to the DNR. All sections of this form must be completed unless otherwise directed by the Department. DNR will consider your request administratively complete when the form and all sections are completed, all attachments are included, and the applicable fees required under ch. NR 749, Wis. Adm. Code, are included, and sent to the proper destinations. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law (ss. 19.31 - 19.39, Wis. Stats.). Incomplete forms will be considered "administratively incomplete" and processing of the request will stop until required information is provided.

Site Information			
BRRTS No. 02-46-587191		VPLE No.	
Parcel ID No. 12-050-07-13-003			
FID No. 246042170		WTM Coordinates	
		X 683636	Y 308051
BRRTS Activity (Site) Name Bay Cleaners		WTM Coordinates Represent: <input checked="" type="checkbox"/> Source Area <input type="checkbox"/> Parcel Center	
Site Address 201-207 S Main St		City Thiensville	State WI
Acres Ready For Use 0.69		ZIP Code 53092	

Responsible Party (RP) Name Robert Jenior			
Company Name Jenior-Bagneski, LLC			
Mailing Address N85W16345 Arthur Avenue		City Menomonee Falls	State WI
Phone Number (414) 630-2428		ZIP Code 53051	
Email robert.jenior@yahoo.com			
<input checked="" type="checkbox"/> Check here if the RP is the owner of the source property.			
Environmental Consultant Name David M. Lennon			
Consulting Firm Moraine Environmental, Inc.			
Mailing Address 766 Tower Dr		City Fredonia	State WI
Phone Number (262) 692-3345		ZIP Code 53021	
Email moraine@execpc.com			

Fees and Mailing of Closure Request	
1. Send a copy of page one of this form and the applicable ch. NR 749, Wis. Adm. Code, fee(s) to the DNR Regional EPA (Environmental Program Associate) at http://dnr.wi.gov/topic/Brownfields/Contact.html#tabx3 . Check all fees that apply:	
<input checked="" type="checkbox"/> \$1,050 Closure Fee	<input checked="" type="checkbox"/> \$300 Database Fee for Soil
<input type="checkbox"/> \$350 Database Fee for Groundwater or Monitoring Wells (Not Abandoned)	Total Amount of Payment \$ <u>\$1,350.00</u>
<input type="checkbox"/> Resubmittal, Fees Previously Paid	
2. Send one paper copy and one e-copy on compact disk of the entire closure package to the Regional Project Manager assigned to your site. Submit as <u>unbound, separate documents</u> in the order and with the titles prescribed by this form. For electronic document submittal requirements, see http://dnr.wi.gov/files/PDF/pubs/rr/RR690.pdf .	

Site Summary

If any portion of the Site Summary Section is not relevant to the case closure request, you must fully explain the reasons why in the relevant section of the form. All information submitted shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected.

1. General Site Information and Site History

- A. Site Location: Describe the physical location of the site, both generally and specific to its immediate surroundings.
The site is located in the NE 1/4 of the SE 1/4 of Section 22, Township 09 North, Range 21 East, Ozaukee County at 201-207 S Main Street, Thiensville, WI.
- B. Prior and current site usage: Specifically describe the current and historic occupancy and types of use.
The property and building are currently vacant. Bay Cleaners had operated in the southeast building section from 1999 to July 2021. The subject property was first developed as a filling station sometime between 1950 and 1963. The property was a retail gas station up to the early 1970s, when it had expanded to auto repair as well as retail gas sales, with a new, larger service building. Fuel sales ceased in 1996, and automotive maintenance operations continued through 2018.
- C. Current zoning (e.g., industrial, commercial, residential) for the site and for neighboring properties, and how verified (Provide documentation in Attachment G).
The commercial property is zoned B-4 Highway Business District, according to the Thiensville zoning map provided as Attachment F.3.
- D. Describe how and when site contamination was discovered.
Dry cleaning VOCs were identified in 2019 during a Phase II ESA completed by The Sigma Group (Sigma) for a prospective buyer of the property, The Boucher Group (Boucher).
- E. Describe the type(s) and source(s) or suspected source(s) of contamination.
CVOCs from past dry cleaning operations by the former Bay Cleaners operation on-site from 1999 to July 2021.
- F. Other relevant site description information (or enter Not Applicable).
Not Applicable
- G. List BRRTS activity/site name and number for BRRTS activities at this source property, including closed cases.
Bay Cleaners; BRRTS #02-46-587191 - Open ERP
Phillips 66 Gas Station; BRRTS #03-46-003888 - Closed LUST
- H. List BRRTS activity/site name(s) and number(s) for all properties immediately adjacent to (abutting) this source property.
None

2. General Site Conditions

- A. Soil/Geology
 - i. Describe soil type(s) and relevant physical properties, thickness of soil column across the site, vertical and lateral variations in soil types.
Subsurface characteristics observed at the Bay Cleaners site included unconsolidated silt, clayey silt and sandy silt with some gravel observations throughout the investigated interval at depths from the near surface to 15 feet bgs. Bedrock was not encountered during Moraine's investigation. Cobble was encountered during the installation of PZ-1 at depths from 15 feet to 32 feet below grade.
 - ii. Describe the composition, location and lateral extent, and depth of fill or waste deposits on the site.
No fill or waste deposits were identified during the investigation or remedial soil excavation.
 - iii. Describe the depth to bedrock, bedrock type, competency and whether or not it was encountered during the investigation.
Bedrock was not encountered during the investigation. Logs from historic wells installed in the vicinity of the subject site indicated limestone bedrock lies at various depths, from 30 to 80 feet below grade. The on-site potable well log (well located near west end of building), indicated limestone bedrock at 46 feet.
 - iv. Describe the nature and locations of current surface cover(s) across the site (e.g., natural vegetation, landscaped areas, gravel, hard surfaces, and buildings).
Areas east, north, and west of the site building are asphalt or concrete paved. The area to the south of the building along the south property line is earthen and covered with vegetation, except for a 4' wide section of remaining sidewalk on the western 1/2 of the building along the building's south wall.
- B. Groundwater

- i. Discuss depth to groundwater and piezometric elevations. Describe and explain depth variations, including high and low water table elevation and whether free product affects measurement of water table elevation. Describe the stratigraphic unit(s) where water table was found or which were measured for piezometric levels.
The shallow monitoring/small diameter wells were screened in clayey or sandy silt, with an observed depth to groundwater of about 5 feet below ground surface (bgs). One piezometer (PZ-1) was screened in clayey silt with cobble from 26-31 feet bgs. Depth to groundwater elevations, both shallow and deep, did not show great variation over time.
- ii. Discuss groundwater flow direction(s), shallow and deep. Describe and explain flow variations, including fracture flow if present.
Static water level measurements indicate the shallow groundwater flow direction in the area of investigation/source release is southerly, toward the off-site stormwater pond. Regional groundwater flow is northeasterly, toward the Milwaukee River. Deep groundwater flow was not calculated as we have only one piezometer installed necessary to complete the investigation.
- iii. Discuss groundwater flow characteristics: hydraulic conductivity, flow rate and permeability, or state why this information was not obtained.
Hydraulic conductivity testing was not performed. However, based on the clayey silts observed near the water table and at well screen depths, with an estimated hydraulic conductivity of 5.0×10^{-5} cm/sec, the seepage velocity can be estimated:
Using Darcy's Law equations, the seepage velocity across the site was determined from the following equation: $VS = VD/n$ where VS = Seepage Velocity; VD = Darcy Velocity; n = soil porosity. Further $VD = \text{Hydraulic Conductivity} \times \text{Gradient}$. Using a gradient of 0.0046 ft/ft; hydraulic conductivity of 5.0×10^{-5} cm/sec; and a porosity of 0.40 for the soil material within and below the water table, the seepage velocity is estimated to be 0.6 feet per year from the former source area on the south side of the building, southerly, toward the stormwater pond.
- iv. Identify and describe locations/distance of potable and/or municipal wells within 1200 feet of the site. Include general summary of well construction (geology, depth of casing, depth of screened or open interval).
Municipal potable water supply in Thiensville is supplied by treated water from Lake Michigan. There are also in-use potable wells within the Village of Thiensville within 1200 feet of the site, as shown on Figure B.1.a. There is a potable well on-site which is in-use. The on site potable well log indicates gravel from the surface to 28'; Hardpan to 40'; clay to 46'; and limestone from 46'-121'. The on-site well was cased to 121'.

The next nearest in-use potable well is at 192 S Main St and is located approximately 130' northeast of the subject site. The well construction log for the 192 S Main St well indicates gravel from the surface to 3'; blue clay to 37'; gravel to 43'; blue clay to 57'; dolomite to 493'; and shale to 545'. This well was cased to 167'.

3. Site Investigation Summary

A. General

- i. Provide a brief summary of the site investigation history. Reference previous submittals by name and date. Describe site investigation activities undertaken since the last submittal for this project and attach the appropriate documentation in Attachment C, if not previously provided.
The site investigation included sampling and analysis of soil, groundwater and vapor necessary to define the extent of dry cleaner solvent contamination. Moraine completed and submitted the Site Investigation & Interim Action Report on October 7, 2021, to the WDNR. A Site Investigation Addendum letter report, dated February 28, 2022, was also submitted to WDNR.
- ii. Identify whether contamination extends beyond the source property boundary, and if so describe the media affected (e.g., soil, groundwater, vapors and/or sediment, etc.), and the vertical and horizontal extent of impacts.
Shallow residual soil contamination remains on the south adjacent 213 S Main St. property in a small area along the north side of the off-site storm water detention pond. PCE and or TCE were identified at four (4) locations at levels above respective groundwater pathway RCLs as follows: PCE (668 ug/kg) and TCE (31.5 J ug/kg) from 8' at OE-6; PCE of 29.9 J ug/kg from 0-1' at SP-8; PCE of 89.6 ug/kg from 0-1' and PCE of 23.4 J ug/kg at 7' from SP/SD-4; PCE of 39.6 J ug/kg from 0-1' at SP-5.
- iii. Identify any structural impediments to the completion of site investigation and/or remediation and whether these impediments are on the source property or off the source property. Identify the type and location of any structural impediment (e.g., structure) that also serves as the performance standard barrier for protection of the direct contact or the groundwater pathway.
There were no structural impediments to completion of the investigation and/or remediation. No direct contact RCL exceedances were observed during the investigation, so no structure is needed to act as a performance standard barrier. Where observed, remaining groundwater pathway RCLs in soil have resulted in only low-level PAL exceedances in groundwater, so future barrier placement to protect the groundwater pathway is not necessary.

B. Soil

- i. Describe degree and extent of soil contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways.

Elevated VOC concentrations were identified in a small swale outside the rear (south) man door originating from the former Bay Cleaners dry cleaning operation and to a lesser extent in areas west and south of the man door. An interim action by excavation of highly contaminated soil material was completed in May 2021. Post remedial (post-excavation) unsaturated soil contamination, consisting primarily of low-level PCE Groundwater Pathway exceedances, remains on and off-site in a narrow, u-shaped buffer around the excavation area along the south side of the building, extending onto the south adjacent property. Although residual soil contaminants above respective groundwater pathway RCL's remains, the soil concentrations are low-level and result only in groundwater contamination PAL exceedances.

- ii. Describe the concentration(s) and types of soil contaminants found in the upper four feet of the soil column.

25 soil samples within the upper 4 feet of soil column were analyzed for VOCs. No compounds were detected at levels above respective direct contact pathway RCLs. Groundwater pathway (GWP) RCL exceedances of PCE, TCE, or cis-1,2-DCE were identified in 14 of the 25 sample locations. Nine (9) of the 14 soil sample locations with GWP RCLs were removed during the interim action (soil excavation) completed in May 2021. The remaining five (5) locations with residual GWP RCLs were all collected within the upper 2' of soil column and each was a PCE detection above its GWP RCL of 4.54 ug/kg as follows: SB-7 (390 J ug/kg); HA-2 (295 ug/kg); SP-4 (89.6 ug/kg); SP-5 (39.6 J ug/kg); and SP-8 (29.9 J ug/kg).

- iii. Identify the ch. NR 720, Wis. Adm. Code, method used to establish the soil cleanup standards for this site. This includes a soil performance standard established in accordance with s. NR 720.08, a Residual Contaminant Level (RCL) established in accordance with s. NR 720.10 that is protective of groundwater quality, or an RCL established in accordance with s. NR 720.12 that is protective of human health from direct contact with contaminated soil. Identify the land use classification that was used to establish cleanup standards. Provide a copy of the supporting calculations/information in Attachment C.

The RCLs from the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html> were used to evaluate subsurface soil conditions. The subject site would be considered non-industrial.

C. Groundwater

- i. Describe degree and extent of groundwater contamination. Relate this to known or suspected sources and known or potential receptors/migration pathways. Specifically address any potential or existing impacts to water supply wells or interception with building foundation drain systems.

Groundwater from the on-site potable well, located to the west of the former CVOC source area, was analyzed twice and each time resulted in no VOC detections. Data collected from soil samples during installation of PZ-1 indicated no VOC soil contaminants in samples collected from 14', 20', and 30' bgs; additionally, no VOCs were detected in the groundwater sample collected from PZ-1 from the final two groundwater monitoring events in September and December 2021. The vertical extent of groundwater contamination in the source area is defined both vertically and horizontally, with no apparent risk of contamination to the site potable well or any off-site potable well. The building is slab on grade so there are no building foundation drain systems to act as a groundwater contaminant migration pathway.

- ii. Describe the presence of free product at the site, including the thickness, depth, and locations. Identify the depth and location of the smear zone.

Free product was not identified during investigative or interim action (excavation) activities.

D. Vapor

- i. Describe how the vapor migration pathway was assessed, including locations where vapor, soil gas, or indoor air samples were collected. If the vapor pathway was not assessed, explain reasons why.

Sub-slab vapor samples were collected two times from each of four locations (SS-1 through SS-4) to assess the vapor migration pathway. The building is slab on grade. Two samples (SS-1 and SS-2) were collected along the south interior of the former Bay Cleaners operation area. Two samples (SS-3 and SS-4) were collected along the south interior of the former service garage area. Each sample was analyzed for VOCs by analytical method TO-15. Although several analytes were detected in each of SS-1 through SS-4, no concentration exceeded residential VRSL's, either of the two vapor monitoring events. The site is considered small commercial or large commercial (high bay area in maintenance shop) when evaluating vapor data. Vapor analytical results are provided in Table A.4.

- ii. Identify the applicable DNR action levels and the land use classification used to establish them. Describe where the DNR action levels were reached or exceeded (e.g., sub slab, indoor air or both).

The land use classification for vapor assessment at this site is considered small commercial in the eastern half of the building which has low ceilings; the western portion of the building (maintenance shop) has high bay ceilings and would be considered large commercial. No DNR action levels were exceeded in any sub-slab vapor sample location (all results were less than residential VRSLs). Vapor assessment guidance recommends two rounds of vapor sample collection (one collected in the winter months when frost is in the ground). The second round of sub-slab vapor sample collection was completed on January 6, 2022.

E. Surface Water and Sediment

- i. Identify whether surface water and/or sediment was assessed and describe the impacts found. If this pathway was not assessed, explain why.

The south adjacent storm water detention pond water was analyzed for VOCs in June and September 2021. No VOCs were detected in analysis of either sample. Surface water sample results from the "Pond" are included with the groundwater analytical results in Table A.1. The "Pond" sample collected in December 2021 resulted in a detection of vinyl chloride at 0.22 J ug/L.

- ii. Identify any surface water and/or sediment action levels used to assess the impacts for this pathway and how these were derived. Describe where the DNR action levels were reached or exceeded.

No surface water action levels were used to assess this pathway.

4. Remedial Actions **Implemented** and Residual Levels at Closure

- A. General: Provide a brief summary of the remedial action history. List previous remedial action report submittals by name and date. Identify remedial actions undertaken since the last submittal for this project and provide the appropriate documentation in Attachment C.

None

- B. Describe any immediate or interim actions taken at the site under ch NR 708, Wis. Adm. Code.

On May 18, 2021, Moraine and our subcontractor Horizon Construction & Exploration (Horizon) excavated and removed from the south side of the property 189.22 tons of chlorinated solvent contaminated soils. The excavation was in an approximate 14' x 32' area of contaminated unsaturated and saturated soil encompassing the source area located south and west of the former Bay Cleaners rear man door. Soil excavation depths were down to 11 feet bgs along the building edge and in the swale outside the rear man-door and decreased to 8 feet bgs as the excavation moved south, toward the off-site stormwater pond.

- C. Describe the *active* remedial actions taken at the source property, including: type of remedial system(s) used for each media affected; the size and location of any excavation or in-situ treatment; the effectiveness of the systems to address the contaminated media and substances; operational history of the systems; and summarize the performance of the active remedial actions. Provide any system performance documentation in Attachment A.7.

Excavation details in 4.B., above

- D. Describe the alternatives considered during the Green and Sustainable Remediation evaluation in accordance with NR 722.09 and any practices implemented as a result of the evaluation.

None

- E. Describe the nature, degree and extent of residual contamination that will remain at the source property or on other affected properties after case **closure**.

Post remedial (post-excavation) unsaturated soil contamination, consisting primarily of low-level PCE Groundwater Pathway RCL exceedances, remains onsite in a narrow, u-shaped buffer around the excavation area along the south side of the building, extending onto the south adjacent property, and north inside the former Bay Cleaners work area. There are five (5) remaining locations with residual unsaturated GWP RCLs all within the upper 2' of soil column and each was a PCE detection above its GWP RCL of 4.54 ug/kg as follows: SB-7 (390 J ug/kg); HA-2 (295 ug/kg); SP-4 (89.6 ug/kg); SP-5 (39.6 J ug/kg); and SP-8 (29.9 J ug/kg).

- F. Describe the residual soil contamination within four feet of ground surface (direct contact zone) that attains or exceeds RCLs established under s. NR 720.12, Wis. Adm. Code, for protection of human health from direct contact.

There were no soil Direct Contact RCLs identified during the investigation.

- G. Describe the residual soil contamination that is above the observed low water table that attains or exceeds the soil standard(s) for the groundwater pathway.

There are five (5) remaining locations with residual GWP RCLs all within the upper 2' of soil column and each was a PCE detection above its GWP RCL of 4.54 ug/kg as follows: SB-7 (390 J ug/kg); HA-2 (295 ug/kg); SP-4 (89.6 ug/kg); SP-5 (39.6 J ug/kg); and SP-8 (29.9 J ug/kg).

- H. Describe how the residual contamination will be addressed, including but not limited to details concerning: covers, engineering controls or other barrier features; use of natural attenuation of groundwater; and vapor mitigation systems or measures.

Residual soil contamination will require a continuing obligation post closure, for proper soil management.

- I. If using natural attenuation as a groundwater remedy, describe how the data collected supports the conclusion that natural attenuation is effective in reducing contaminant mass and concentration (e.g., stable or receding groundwater plume).

Not Applicable. The interim action by excavation of source area chlorinated solvents has had an immediate effect on the groundwater quality as previous elevated CVOC ES's are now only PAL exceedances, as evidenced by the pre-remedial groundwater results at SP/SD-1 compared to post-remedial groundwater results at MW-1 in the swale/source area.

- J. Identify how all exposure pathways (soil, groundwater, vapor) were removed and/or adequately addressed by immediate, interim and/or remedial action(s).
The interim action by soil excavation has reduced the groundwater contaminant levels to below ES's and has also removed the need for identification of the site as a future vapor intrusion risk. The vapor data collected indicates there are currently no vapor risks or need to install an SSDS. Remaining residual soil contamination will require a continuing obligation for proper soil management should the soil in this area be exposed for any reason (building addition, utility lateral, etc...)
- K. Identify any system hardware anticipated to be left in place after site closure, and explain the reasons why it will remain.
No remedial systems were installed.
- L. Identify the need for a ch. NR 140, Wis. Adm. Code, groundwater Preventive Action Limit (PAL) or Enforcement Standard (ES) exemption, and identify the affected monitoring points and applicable substances.
No exemptions are requested.
- M. If a DNR action level for vapor intrusion was exceeded (for indoor air, sub slab, or both) describe where it was exceeded and how the pathway was addressed.
No vapor action levels were exceeded.
- N. Describe the surface water and/or sediment contaminant concentrations and areas after remediation. If a DNR action level was exceeded, describe where it was exceeded and how the pathway was addressed.
Two (2) surface water samples from the south adjacent storm water pond were analyzed for VOCs and resulted in no detections from the June and September 2021 sampling events. Vinyl chloride was detected at 0.21 J ug/L in December 2021. No DNR Action levels have been established for surface water sample results.

5. Continuing Obligations: Includes all affected properties and rights-of-way (ROWS). In certain situations, maintenance plans are also required, and must be included in Attachment D.

Directions: For each of the 3 property types below, check all situations that apply to this closure request.

(NOTE: Monitoring wells to be transferred to another site are addressed in Attachment E.)

This situation applies to the following property or Right of Way (ROW):			Case Closure Situation - Continuing Obligation (database fees will apply, ii. - xiv.)	Maintenance Plan Required	
Property Type:					
Source Property	Affected Property (Off-Source)	ROW			
i.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	None of the following situations apply to this case closure request.	NA
ii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual groundwater contamination exceeds ch. NR 140 ESs.	NA
iii.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination exceeds ch. NR 720 RCLs.	NA
iv.				Monitoring Wells Remain:	
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Not Abandoned (filled and sealed)	NA
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	• Continued Monitoring (requested or required)	Yes
v.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) direct contact pathways (includes vapor barriers)	Yes
vi.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cover/Barrier/Engineered Cover or Control for (soil) groundwater infiltration pathway	Yes
vii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Structural Impediment: impedes completion of investigation or remedial action (not as a performance standard cover)	NA
viii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Residual soil contamination meets NR 720 industrial soil RCLs, land use is classified as industrial	NA
ix.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor Mitigation System (VMS) required due to exceedances of vapor risk screening levels or other health based concern	Yes
x.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Dewatering System needed for VMS to work effectively	Yes
xi.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Compounds of Concern in use: full vapor assessment could not be completed	NA
xii.	<input type="checkbox"/>	<input type="checkbox"/>	NA	Vapor: Commercial/industrial exposure assumptions used.	NA
xiii.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vapor: Residual volatile contamination poses future risk of vapor intrusion	NA
xiv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Site-specific situation: (e. g., fencing, methane monitoring, other) (<i>discuss with project manager before submitting the closure request</i>)	Site specific

6. Underground Storage Tanks

- A. Were any tanks, piping or other associated tank system components removed as part of the investigation or remedial action? ☐ Yes ☒ No
- B. Do any upgraded tanks meeting the requirements of ch. ATCP 93, Wis. Adm. Code, exist on the property? ☐ Yes ☒ No
- C. If the answer to question 6.B. is yes, is the leak detection system currently being monitored? ☐ Yes ☐ No

General Instructions

All information shall be legible. Providing illegible information will result in a submittal being considered incomplete until corrected. For each attachment (A-G), provide a Table of Contents page, listing all 'applicable' and 'not applicable' items by Closure Form titles (e.g., A.1. Groundwater Analytical Table, A.2. Soil Analytical Results Table, etc.). If any item is 'not applicable' to the case closure request, you must fully explain the reasons why.

Data Tables (Attachment A)

Directions for Data Tables:

- Use **bold** and italics font for information of importance on tables and figures. Use **bold** font for ch. NR 140, Wis. Adm. Code ES attainments or exceedances, and *italicized font* for ch. NR 140, Wis. Adm. Code, PAL attainments or exceedances.
- Use **bold** font to identify individual ch. NR 720 Wis. Adm. Code RCL exceedances. Tables should also include the corresponding groundwater pathway and direct contact pathway RCLs for comparison purposes. Cumulative hazard index and cumulative cancer risk exceedances should also be tabulated and identified on Tables A.2 and A.3.
- Do not use shading or highlighting on the analytical tables.
- Include on Data Tables the level of detection for results which are below the detection level (i.e., do not just list as no detect (ND)).
- Include the units on data tables.
- Summaries of all data must include information collected by previous consultants.
- Do not submit lab data sheets unless these have not been submitted in a previous report. Tabulate all data required in s. NR 716.15 (3)(c), Wis. Adm. Code, in the format required in s. NR 716.15(4)(e), Wis. Adm. Code.
- Include in Attachment A all of the following tables, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: A.1. Groundwater Analytical Table; A.2. Soil Analytical Results Table, etc.).
- For required documents, each table (e.g., A.1., A.2., etc.) should be a separate Portable Document Format (PDF).

A. Data Tables

- A.1. **Groundwater Analytical Table(s):** Table(s) showing the analytical results and collection dates for all groundwater sampling points (e.g., monitoring wells, temporary wells, sumps, extraction wells, potable wells) for which samples have been collected.
- A.2. **Soil Analytical Results Table(s):** Table(s) showing **all** soil analytical results and collection dates. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated).
- A.3. **Residual Soil Contamination Table(s):** Table(s) showing the analytical results of only the residual soil contamination at the time of closure. This table shall be a subset of table A.2 and should include only the soil sample locations that exceed an RCL. Indicate if sample was collected above or below the observed low water table (unsaturated versus saturated). Table A.3 is optional only if a total of fewer than 15 soil samples have been collected at the site.
- A.4. **Vapor Analytical Table(s):** Table(s) showing type(s) of samples, sample collection methods, analytical method, sample results, date of sample collection, time period for sample collection, method and results of leak detection, and date, method and results of communication testing.
- A.5. **Other Media of Concern (e.g., sediment or surface water):** Table(s) showing type(s) of sample, sample collection method, analytical method, sample results, date of sample collection, and time period for sample collection.
- A.6. **Water Level Elevations:** Table(s) showing all water level elevation measurements and dates from all monitoring wells. If present, free product should be noted on the table.
- A.7. **Other:** This attachment should include: 1) any available tabulated natural attenuation data; 2) data tables pertaining to engineered remedial systems that document operational history, demonstrate system performance and effectiveness, and display emissions data; and (3) any other data tables relevant to case closure not otherwise noted above. If this section is not applicable, please explain the reasons why.

Maps, Figures and Photos (Attachment B)

Directions for Maps, Figures and Photos:

- Provide on paper no larger than 11 x 17 inches, unless otherwise directed by the Department. Maps and figures may be submitted in a larger electronic size than 11 x 17 inches, in a PDF readable by the Adobe Acrobat Reader. However, those larger-size documents must be legible when printed.
- Prepare visual aids, including maps, plans, drawings, fence diagrams, tables and photographs according to the applicable portions of ss. NR 716.15(4), 726.09(2) and 726.11(3), (5) and (6), Wis. Adm. Code.
- Include all sample locations.
- Contour lines should be clearly labeled and defined.
- Include in Attachment B all of the following maps and figures, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: B.1. Location Map; B.2. Detailed Site Map, etc.).
- For the electronic copies that are required, each map (e.g., B.1.a., B.2.a, etc.) should be a separate PDF.
- Maps, figures and photos should be dated to reflect the most recent revision.

B.1. Location Maps

- B.1.a. **Location Map:** A map outlining all properties within the contaminated site boundaries on a United States Geological Survey (U.S.G.S.) topographic map or plat map in sufficient detail to permit easy location of all affected and/or adjacent parcels. If groundwater standards are exceeded, include the location of all potable wells, including municipal wells, within 1200 feet of the area of contamination.
- B.1.b. **Detailed Site Map:** A map that shows all relevant features (buildings, roads, current ground surface cover, individual property boundaries for all affected properties, contaminant sources, utility lines, monitoring wells and potable wells) within the contaminated area. This map is to show the location of all contaminated public streets, and highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination attaining or exceeding a ch. NR 140 ES, and/or in relation to the boundaries of soil contamination attaining or exceeding a RCL. Provide parcel identification numbers for all affected properties.
- B.1.c. **RR Sites Map:** From RR Sites Map ([http://dnrmaps.wi.gov/sl/?Viewer=RR Sites](http://dnrmaps.wi.gov/sl/?Viewer=RR%20Sites)) attach a map depicting the source property, and all open and closed BRRTS sites within a half-mile radius or less of the property.

B.2. Soil Figures

- B.2.a. **Soil Contamination:** Figure(s) showing the location of **all** identified unsaturated soil contamination. Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720.Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedances (0-4 foot depth).
- B.2.b. **Residual Soil Contamination:** Figure(s) showing only the locations of soil samples where unsaturated soil contamination remains at the time of closure (locations represented in Table A.3). Use a single contour to show the horizontal extent of each area of contiguous soil contamination that exceeds a soil to groundwater pathway RCL as determined under ch. NR 720 Wis. Adm. Code. A separate contour line should be used to indicate the horizontal extent of each area of contiguous soil contamination that exceeds a direct contact RCL exceedance (0-4 foot depth).

B.3. Groundwater Figures

- B.3.a. **Geologic Cross-Section Figure(s):** One or more cross-section diagrams showing soil types and correlations across the site, water table and piezometric elevations, and locations and elevations of geologic rock units, if encountered. Display on one or more figures all of the following:
- Source location(s) and vertical extent of residual soil contamination exceeding an RCL. Distinguish between direct contact and the groundwater pathway RCLs.
 - Source location(s) and lateral and vertical extent if groundwater contamination exceeds ch. NR 140 ES.
 - Surface features, including buildings and basements, and show surface elevation changes.
 - Any areas of active remediation within the cross section path, such as excavations or treatment zones.
 - Include a map displaying the cross-section location(s), if they are not displayed on the Detailed Site Map (Map B.1.b.)
- B.3.b. **Groundwater Isoconcentration:** Figure(s) showing the horizontal extent of the post-remedial groundwater contamination exceeding a ch. NR 140, Wis. Adm. Code, PAL and/or an ES. Indicate the date and direction of groundwater flow based on the most recent sampling data.
- B.3.c. **Groundwater Flow Direction:** Figure(s) representing groundwater movement at the site. If the flow direction varies by more than 20° over the history of the site, submit two groundwater flow maps showing the maximum variation in flow direction.
- B.3.d. **Monitoring Wells:** Figure(s) showing all monitoring wells, with well identification number. Clearly designate any wells that: (1) are proposed to be abandoned; (2) cannot be located; (3) are being transferred; (4) will be retained for further sampling, or (5) have been abandoned.

B.4. Vapor Maps and Other Media

- B.4.a. **Vapor Intrusion Map:** Map(s) showing all locations and results for samples taken to investigate the vapor intrusion pathway in relation to residual soil and groundwater contamination, including sub-slab, indoor air, soil vapor, soil gas, ambient air, and communication testing. Show locations and footprints of affected structures and utility corridors, and/or where residual contamination poses a future risk of vapor intrusion.
- B.4.b. **Other media of concern (e.g., sediment or surface water):** Map(s) showing all sampling locations and results for other media investigation. Include the date of sample collection and identify where any standards are exceeded.
- B.4.c. **Other:** Include any other relevant maps and figures not otherwise noted above. (This section may remain blank).

- B.5. Structural Impediment Photos:** One or more photographs documenting the structural impediment feature(s) which precluded a complete site investigation or remediation at the time of the closure request. The photographs should document the area that could not be investigated or remediated due to a structural impediment. The structural impediment should be indicated on Figures B.2.a and B.2.b.

Documentation of Remedial Action (Attachment C)**Directions for Documentation of Remedial Action:**

- Include in Attachment C all of the following documentation, in the order prescribed below, with the specific Closure Form titles noted on the separate attachments (e.g., Title: C.1. Site Investigation Documentation; C.2. Investigative Waste, etc.).
- If the documentation requested below has already been submitted to the DNR, please note the title and date of the report for that particular document requested.
 - C.1. **Site investigation documentation**, that has not otherwise been submitted with the Site Investigation Report.
 - C.2. **Investigative waste** disposal documentation.
 - C.3. Provide a **description of the methodology** used along with all supporting documentation if the RCLs are different than those contained in the Department's RCL Spreadsheet available at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html>.
 - C.4. **Construction documentation** or as-built report for any constructed remedial action or portion of, or interim action specified in s. NR 724.02(1), Wis. Adm. Code.
 - C.5. **Decommissioning of Remedial Systems.** Include plans to properly abandon any systems or equipment.
 - C.6. **Other.** Include any other relevant documentation not otherwise noted above (This section may remain blank).

Maintenance Plan(s) and Photographs (Attachment D)**Directions for Maintenance Plans and Photographs:**

Attach a maintenance plan for each affected property (source property, each off-source affected property) with continuing obligations requiring future maintenance (e.g., direct contact, groundwater protection, vapor intrusion). See Site Summary section 5 for all affected property(s) requiring a maintenance plan. Maintenance plan guidance and/or templates for: 1) Cover/barrier systems; 2) Vapor intrusion; and 3) Monitoring wells, can be found at: <http://dnr.wi.gov/topic/Brownfields/Professionals.html#tabx3>

- D.1. **Descriptions of maintenance action(s) required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required:**
- Provide brief descriptions of the type, depth and location of residual contamination.

- Provide a description of the system/cover/barrier/monitoring well(s) to be maintained.
 - Provide a description of the maintenance actions required for maximizing effectiveness of the engineered control, vapor mitigation system, feature or other action for which maintenance is required.
 - Provide contact information, including the name, address and phone number of the individual or facility who will be conducting the maintenance.
- D.2. **Location map(s) which show(s):** (1) the feature that requires maintenance; (2) the location of the feature(s) that require(s) maintenance - on and off the source property; (3) the extent of the structure or feature(s) to be maintained, in relation to other structures or features on the site; (4) the extent and type of residual contamination; and (5) all property boundaries.
- D.3. **Photographs** for site or facilities with a cover or other performance standard, a structural impediment or a vapor mitigation system, include one or more photographs documenting the condition and extent of the feature at the time of the closure request. Pertinent features shall be visible and discernible. Photographs shall be submitted with a title related to the site name and location, and the date on which it was taken.
- D.4. **Inspection log**, to be maintained on site, or at a location specified in the maintenance plan or approval letter. The inspection and maintenance log is found at: <http://dnr.wi.gov/files/PDF/forms/4400/4400-305.pdf>.

Monitoring Well Information (Attachment E)

Directions for Monitoring Well Information:

For all wells that will remain in use, be transferred to another party, or that could not be located; attach monitoring well construction and development forms (DNR Form 4400-113 A and B: http://dnr.wi.gov/topic/groundwater/documents/forms/4400_113_1_2.pdf)

Select One:

- ☐ No monitoring wells were installed as part of this response action.
- ☒ All monitoring wells have been located and will be properly abandoned upon the DNR granting conditional closure to the site
- ☐ **Select One or More:**
- ☐ Not all monitoring wells can be located, despite good faith efforts. Attachment E must include a description of efforts made to locate the wells.
 - ☐ One or more wells will remain in use at the site after this closure. Attachment E must include documentation as to the reason (s) the well(s) will remain in use. When one or more monitoring wells will remain in use this is considered a continuing obligation and a maintenance plan will be required and must be included in Attachment D.
 - ☐ One or more monitoring wells will be transferred to another owner upon case closure being granted. Attachment E should include documentation identifying the name, address and email for the new owner(s). Provide documentation from the party accepting future responsibility for monitoring well(s).

Source Legal Documents (Attachment F)

Directions for Source Legal Documents:

Label documents with the specific closure form titles (e.g., F.1. Deed, F.2. Certified Survey Map, etc.). Include all of the following documents, in the order listed:

- F.1. **Deed:** The most recent deed with legal description clearly listed.
- Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.*
- F.2. **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- F.3. **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- F.4. **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes that the attached legal description(s) accurately describe(s) the correct contaminated property or properties. This section applies to the source property only. Signed statements for Other Affected Properties should be included in Attachment G.

Notifications to Owners of Affected Properties (Attachment G)**Directions for Notifications to Owners of Affected Properties:**

Complete the table on the following page for sites which require notification to owners of affected properties pursuant to ch. 292, Wis. Stats. and ch. NR 725 and 726, Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31- 19.39, Wis. Stats.]. The DNR's "Guidance on Case Closure and the Requirements for Managing Continuing Obligations" (PUB-RR-606) lists specific notification requirements <http://dnr.wi.gov/files/PDF/pubs/rr/RR606.pdf>.

State law requires that the responsible party provide a 30-day, written advance notification to certain persons prior to applying for case closure. This requirement applies if: (1) the person conducting the response action does not own the source property; (2) the contamination has migrated onto another property; and/or (3) one or more monitoring wells will not be abandoned. Use form 4400-286, Notification of Continuing Obligations and Residual Contamination, at <http://dnr.wi.gov/files/PDF/forms/4400/4400-286.pdf>

Include a copy of each notification sent and accompanying proof of delivery, i.e., return receipt or signature confirmation.

Include the following documents for each property, keeping each property's documents grouped together and labeled with the letter G and the corresponding ID number from the table on the following page. (Source Property documents should only be included in Attachment F):

- **Deed:** The most recent deed with legal descriptions clearly listed for all affected properties.
Note: If a property has been purchased with a land contract and the purchaser has not yet received a deed, a copy of the land contract which includes the legal description shall be submitted instead of the most recent deed. If the property has been inherited, written documentation of the property transfer should be submitted along with the most recent deed.
- **Certified Survey Map:** A copy of the certified survey map or the relevant section of the recorded plat map for those properties where the legal description in the most recent deed refers to a certified survey map or a recorded plat map. In cases where the certified survey map or recorded plat map are not legible or are unavailable, a copy of a parcel map from a county land information office may be substituted. A copy of a parcel map from a county land information office shall be legible, and the parcels identified in the legal description shall be clearly identified and labeled with the applicable parcel identification number.
- **Verification of Zoning:** Documentation (e.g., official zoning map or letter from municipality) of the property's or properties' current zoning status.
- **Signed Statement:** A statement signed by the Responsible Party (RP), which states that he or she believes the attached legal description(s) accurately describe(s) the correct contaminated property or properties.

[illegible]

Signatures and Findings for Closure Determination

This page has been updated as of February 2019 to comply with the requirements of Wis. Admin. Code ch. NR 712.

Check the correct box for this case closure request and complete the corresponding certification statement(s) listed below to demonstrate that the requirements of Wis. Admin. Code ch. NR 712 have been met. The responsibility for signing the certification may not be delegated per Wis. Admin. Code § NR 712.09 (1). Per Wis. Admin. Code § 712.05 (1), the work must be conducted or supervised by the person certifying.

- ☒ The investigation and/or response action(s) for this site evaluated and/or addressed groundwater (including natural attenuation remedies). Both a professional engineer and a hydrogeologist must sign this document per Wis. Admin. Code ch. NR 712.
- ☐ The investigation and the response action(s) for this site did not evaluate or address groundwater. A professional engineer must sign this document per Wis. Admin. Code ch. NR 712.

Engineering Certification

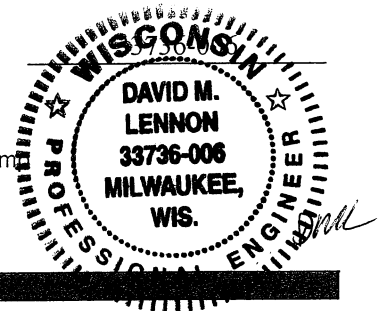
I, David M Lennon, hereby certify that I am a registered professional engineer in the State of Wisconsin, registered in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature David M. Lennon

P. E. #

Title Senior Project Manager - Moraine Environmental, Inc.

P.E. Stamp

**Hydrogeologist Certification**

I, Neil W Rismeyer, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code.

Signature Neil W Rismeyer

Title Senior Hydrogeologist

Date

03/03/22