



[INFORMATION REDACTED]

Commented [CB1]: Highlighting to go through 2022?

ANNUAL INSPECTION REPORT

JULY 6, 2022

PREPARED FOR:

[INFORMATION REDACTED]

SUBMITTED TO:

[INFORMATION REDACTED]

PREPARED BY:

The Vertex Companies, Inc.
398 Libbey Industrial Parkway
Weymouth, MA 02189

PHONE 781-952-6067

VERTEX PROJECT NO: [INFORMATION REDACTED]

Commented [CB2]: I noticed on the Vertex website that the company is listed as The Vertex Companies, LLC



July 6, 2022

[INFORMATION REDACTED]

Re: Annual Inspection Report
[INFORMATION REDACTED]

Attention Bureau of Waste Site Cleanup:

The Vertex Companies, Inc. is pleased to submit this Annual Activity and Use Limitation (AUL) Inspection Report for the [INFORMATION REDACTED] (INFORMATION REDACTED) (the "Property"). This document has been prepared for [INFORMATION REDACTED] Trust in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Draft Guidance on the Use, Design, Construction, and Monitoring of Engineered Barriers (November 2002), MassDEP Public Review Draft Guidance on Implementing Activity and Use Limitations Policy #WSC 14-300 (2014), and 310 CMR 40.0996(5)(a)7.

Please do not hesitate to contact us should you have any questions or require additional information.

Sincerely,

The Vertex Companies, Inc.

Crista J. Trapp
Human Health Risk Assessor

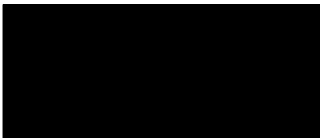
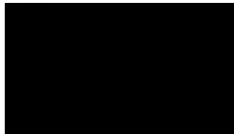


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Figure 1: RTN [INFORMATION REDACTED] AUL Areas Sketch

Appendices

- Appendix A: Copy of [INFORMATION REDACTED]
- Appendix B: Copy of [INFORMATION REDACTED]
- Appendix C: Copy of [INFORMATIN REDACTED]
- Appendix D: Photograph Logs



ANNUAL INSPECTION REPORT
[INFORMATION REDACTED]
Release Tracking Number (RTN): [INFORMATION REDACTED]

1.0 INTRODUCTION

On behalf of the [INFORMATION REDACTED] Trust, The Vertex Companies, Inc. (“VERTEX”) has prepared this Annual Inspection Report (“Report”) for the portion of the Disposal Site associated with Release Tracking Number (“RTN”) [INFORMATION REDACTED] that includes [INFORMATION REDACTED] Intertidal Area (the “Property”)¹. The MassDEP identifies the Disposal Site address as [INFORMATION REDACTED].

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There are a total of five Activity and Use Limitations (“AULs”) associated with the RTN [INFORMATION REDACTED]. Annual Inspections are a condition of the three AULs that apply to the Property. This Annual Inspection Report was prepared in accordance with the Obligations and Conditions of the three AULs and 310 CMR 40.0996(5)(a)7. Annual Inspections for the two other AULs associated with the RTN are being conducted by others. The three AUL Areas included in this inspection are shown on Figure 1 and include the following:

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- **[INFORMATION REDACTED] AUL Area:** This 2.4-acre AUL Area is located on the [INFORMATION REDACTED] portion of the Property and contains the [INFORMATION REDACTED] Building with a ground-level parking garage, associated uncovered parking areas as well as covered carports, landscaped and hardscaped areas, access driveways, and an extension of [INFORMATION REDACTED] (shown as “Easement of Way” on the AUL Exhibit B sketch plans). The [INFORMATION REDACTED] AUL Area is defined under AUL Deed Book 24514 Page 439 (dated February 2, 2007), a copy of which is provided in Appendix A. The [INFORMATION REDACTED] AUL Area is bordered by [INFORMATION REDACTED]

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¹ As used herein, “Disposal Site” refers to [INFORMATION REDACTED]



- **Lots [INFORMATION REDACTED] Area:** This AUL Area is approximately 2.8 acres and consists of a mowed grass field with picnic tables, mowed pathways, and overgrown vegetated areas. It is bordered by [INFORMATION REDACTED] to the east, [INFORMATION REDACTED] to the south, [INFORMATION REDACTED] to the west, and the [INFORMATION REDACTED] to the north. The Lots [INFORMATION REDACTED] Area is defined in the AUL Deed Book 25469 Page 318 (dated January 31, 2008), a copy of which is provided in Appendix B.
- **Lots [INFORMATION REDACTED] AUL Area:** This AUL Area is located between the [INFORMATION REDACTED] parcel and Upper Neck Cove. This undeveloped portion of the Property, which is 0.537 acres in size, extends from the mean high water mark to the mean low water mark along the length of [INFORMATION REDACTED] that faces the shore. The Intertidal Area consists entirely of intertidal sediments (gravel, sand, and silt) and areas of marsh grass. The Lots [INFORMATION REDACTED] AUL Area is defined under AUL Deed Book 35856 Page 260 (dated March 16, 2018), a copy of which is provided in Appendix C.

According to the Class A-4 Response Action Outcome Statement (RAO) for the developed portion of the Lots [INFORMATION REDACTED]Area (dated February 2007) and the Class A-3 Partial Response Action Outcome Statement (RAO-P) and Phase IV Completion Statement for the undeveloped portion of the Lots [INFORMATION REDACTED] Area (dated February 2008) prepared for [INFORMATION REDACTED] was the location of a fertilizer manufacturing facility from 1861 to 1966. A large amount of fill (a red sand-like material) was produced as a byproduct of the industrial operations. The fill remains on portions of the Property to this day and contains elevated levels of arsenic and lead and, to a lesser degree, polycyclic aromatic hydrocarbons (PAHs) and other metals at concentration exceeding MCP Upper Concentration Limits (UCLs). In the late 1970s, a large portion of [INFORMATION REDACTED] was taken over by the Commonwealth of Massachusetts' Department of Environmental Management (DEM) to establish [INFORMATION REDACTED]. Following the change in ownership of the land, the Massachusetts Department of Environmental Quality Engineering (DEQE, the predecessor of the



MassDEP) conducted an investigation to locate and characterize on-site wastes. The DEQE discovered a number of areas of exposed, partially exposed, or buried wastes, which led to the creation of [INFORMATION REDACTED]. RTN [INFORMATION REDACTED] was assigned by the MassDEP's Northeast Region, and the release was subsequently assigned to the MassDEP's Southeast Region. RTN [INFORMATION REDACTED] remains the only RTN for the Disposal Site. Both the RAO and RAO-P indicated that the extensive assessment of groundwater and sediment did not detect contamination that would represent a significant risk. A variety of assessments for the overall Disposal Site under RTN [INFORMATION REDACTED] have been conducted over the past 40 years by numerous engineering and consulting firms working under various contracts by [INFORMATION REDACTED]

In the 2007 RAO and 2008 RAO-P, URS documented a condition of No Significant Risk (NSR) for human and ecological exposures. The condition of NSR is dependent on an Engineered Barrier, that is comprised of a three-foot layer of clean soil or clean sediment, and an institutional control, the AUL. The engineered barrier also includes a geotextile marker barrier which serves as a demarcation layer separating the clean soil/sediment from the underlying impacted red-stained fill-type soils. The engineered barrier is required by the RAOs to mitigate potential exposure to the underlying soils or sediments that have levels of contaminants exceeding UCLs.

AULs were recorded for various portions of the Disposal Site as institutional controls to achieve a condition of NSR. The condition of NSR is dependent on an Engineered Barrier consisting of a three-foot layer of clean soil and the AULs.

In each of the three AULs, the Obligations and Conditions require that an inspection be performed by the owner on an annual basis, at the minimum. Specifically, the AUL for [INFORMATION REDACTED] requires the following: "inspections and any associated record-keeping and/or reporting activities must be ~~performed...to~~ performed . . . to confirm that the clean cap, building slabs, foundations, engineered barriers, or other structures in direct contact with impacted soil are being properly maintained to prevent exposure(s) to impacted soil."

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Commented [CB8]: In science and academic styles, the ellipsis is typed as three periods with spaces in between them, with one space before the first dot and one space after the last dot. However, quotes should be exact, so follow the punctuation used in the source.

The AUL for [INFORMATION REDACTED] requires that the “clean soil cap and geotextile ~~barrier...be~~barrier . . . be maintained and routinely inspected to confirm its ability to effectively prevent exposures to underlying impacted soil through direct contact, ingestion, and/or inhalation.” Additionally, the AUL for [INFORMATION REDACTED] requires that the “vegetation ~~layer...be~~layer . . . be maintained to ensure that erosion of the underlying clean soil cap does not occur.”

Lastly, the AUL for Lots [INFORMATION REDACTED]Area requires the following: “Inspections and any associated record-keeping and/or reporting activities must be performed by the Owner on an annual basis, minimally, and is recommend [sic] after major storm events to confirm that the clean cap is being properly maintained to prevent exposure(s) to impacted sediment.”

The purpose of this Inspection Report is to document the inspection of the surface features of the AUL Areas and document if the visual inspection meets the criteria of the AUL conditions. The inspection identified areas where exposure may be increased due to erosion of the Engineered Barrier or landscaping, or deterioration of asphalt, concrete, hardscaping, etc.

2.0 INSPECTION OF CAPPING SYSTEM

On June 23, 2023, VERTEX inspected the capping system at each of the AUL Areas. Crista J. Trapp, Human Health Risk Assessor, met with the following Trustees from the [INFORMATION REDACTED] Trust: [INFORMATION REDACTED]. Copies of photographs taken during the site walk are provided in Appendix D.

Inspection and maintenance requirements as outlined in the AULs include the following:

1. Inspect and maintain asphalt pavement and concrete across paved areas (including seal coating and crack filling as necessary);
2. Inspect and maintain grass, mulch, plantings, and hardscaping within landscaped areas; ~~and,~~
3. Inspect and maintain a healthy vegetative cover within vegetated areas.

2.1 Asphalt, Concrete, and Hardscaped Areas

VERTEX inspected asphalt and concrete paved areas associated with [INFORMATION REDACTED] and a portion of [INFORMATION REDACTED] identified in the AUL as "Easement of Way." Additionally, VERTEX inspected brick-laid and gravel walkways throughout the Property. Observation of the entire paved parking lot area was limited by parked automobiles. However, the condition of the observed pavement appeared to be consistent and representative of the entire parking lot. Furthermore, seal coating of cracks in the asphalt was performed in October 2021.

VERTEX did not observe evidence of erosion or evidence that the Engineered Barrier may be exposed. VERTEX did not observe the geotextile demarcation layer nor the red-stained fill-type soils. The parking lot, driveways, and surface areas of the clean utility corridors were also observed to be in good condition. Asphalt, patching, seal coating, concrete, and hardscaped areas appeared to be in good condition, except for the following:

- The concrete floors of the carports and ground-level parking garage exhibited de minimis fractures, the majority of which were sealed with what appeared to be an epoxy-type



material. No evidence of vertical or horizontal displacement was observed except for minor displacement observed within several carport parking spots ([INFORMATION REDACTED] Photographs #6 through #9). No red-stained fill soil or groundwater infiltration was observed in the observed cracks.

- De minimis cracking and deterioration of walkway bricks indicative of normal wear was observed on the southern half of the Property, mostly along the edge of the eastern parking lot ([INFORMATION REDACTED] Photograph #15). However, the cracks and deterioration are minor and there is no access to the underlying soil and continue to prevent access to impacted soil. No red-stained fill soil or groundwater infiltration was observed in the observed cracks.

2.2 Vegetated Areas and Sediment Cap

VERTEX assessed landscaped and vegetated areas of the Property for evidence of settlement, surface desiccation (cracking), erosion, and areas of insufficient vegetative cover. Well-established lawn, mulched areas, landscaping, and vegetation were observed. Evidence of settlement, surface desiccation (cracking), erosion, and areas of insufficient vegetative cover were not observed. Lawn netting and grass mats, which are used to protect growing grass against erosion, were observed in some areas (please refer to [INFORMATION REDACTED] Photograph #10 and Lots [INFORMATION REDACTED] Area Photographs #5 and #6 within Appendix D). No evidence of erosion, such as minor swales, gullies, or ravines were observed. The geotextile demarcation layer was not observed during the site walk nor was there evidence of red-stained fill material observed. Landscaped areas were in good condition with no visible erosion or settlement of soils. The open space was in good condition and showed no changes since prior inspections. The undeveloped area is densely grassed, with vegetation including trees and brush. Several areas near the main building have been landscaped.

VERTEX did not observe evidence of erosion or evidence that the Engineered Barrier may be exposed. VERTEX did not observe the geotextile demarcation layer nor the red-stained fill-type



soils. VERTEX did not observe evidence of erosion of the Sediment Cap. No evidence of red sands or geotextile demarcation barrier were observed along the shoreline.

3.0 CORRECTIVE ACTIONS

3.1 Corrective Actions Required to Maintain a Condition of No Significant Risk

Based on observations made during the inspection of the capping system, no corrective actions are necessary to adhere to the requirements of the AULs and maintain a condition of No Significant Risk. VERTEX recommends that the areas of cracked and broken concrete and brick surfaces identified in Section 2.1 be repaired or sealed to prevent further degradation. Given the thickness of the clean cover, the cracked and broken concrete and brick surfaces do not pose a risk of exposure to the impacted soil located beneath the clean cover and caps.

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4.0 CONCLUSION

VERTEX concludes that the conditions are consistent with the requirements of the AUL for the Property and the condition of the capping system appears suitable to maintain a level of No Significant Risk.

5.0 QUALIFICATIONS

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5.1 Limitations and Exceptions

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Our professional services have been performed, our findings obtained, and our conclusions and professional opinion prepared in accordance with customary principles and standards of care practices in the fields of environmental science and engineering. VERTEX is not responsible for the independent conclusions, opinions, or recommendations made by others based on the site inspection presented in this Report. The professional opinions and conclusions contained herein are based solely on the scope of work performed.

VERTEX was not able to observe every square inch of the Property due to the presence of parked cars and trash compactors, but the area that VERTEX did observe appeared to represent otherwise unobservable areas.

The MassDEP is required to audit response actions at disposal sites by M.G.L. Chapter 21E s. 3A(o). This law mandates that MassDEP audit a statistically significant number of all the sites that are required to pay annual compliance assurance fees. Regulations that govern the audit process are contained in the MCP (310 CMR 40.1100). M.G.L. c. 21E and the MCP also give the MassDEP the authority to inspect sites, collect environmental samples, and require that pertinent site information be submitted. Due to the inherent flexibility in interpreting the applicable laws, regulations, and policies, the audits are often subjective and dependent on the opinion of the auditor. As a result, the auditor could require additional assessment of the site and/or remedial action. Based on these considerations, VERTEX is not and will not be responsible for costs or other possible ramifications of any additional work required by the MassDEP or any other government or private entity.

Commented [CB12]: Should this be written as MGL to be consistent with other abbreviations in this work?



FIGURES

**APPENDIX A:
COPY OF [INFORMATION REDACTED] AUL**

APPENDIX B:

COPY OF LOTS [INFORMATION REDACTED]

APPENDIX C:

**COPY OF LOTS [INFORMATION REDACTED]
AREA AUL**

**APPENDIX D:
PHOTOGRAPH LOGS**