Comments Received on the Permanent Solution with No Conditions Statement	
Public Comment	**Response**
Downgradient Property Status Opinion Comment: On March 4, 2022 CMG provided public commentary of the February 17, 2022 draft DPSO on behalf of the Town of Wayland. Vertex provided written responses to all received public comments on the draft DPSO on April 19, 2022. Commentary on the draft DPSO provided by Ms. Anette Lewis noted that attributing groundwater contamination to the former Sand Hill Landfill (currently occupied by the Wayland Transfer Station) was speculative. In response to Ms. Lewis' comment, Vertex deleted reference to the former Sand Hill Landfill in Section 1.0 of the final DPSO, and added a long sentence to the end of Section 5.2 in the final DPSO stating that there was "no current evidence" to conclude that contaminant releases at the former Sand Hill Landfill had migrated to the wetland area that abuts the subject Site to the north and from there migrated onto the subject Site at 484-490 Boston Post Road. In pertinent part, Section 40.0183(2) of the MCP states that "any present or past owner or operator of a downgradient or downstream property" may provide a DPSO to DEP if "such person is not, and was not at any time, affiliated with any other person who owned or operated the property from which the release" originated. The Town of Wayland owned and operated the former Sand Hill Landfill and owns and operates the current Wayland Transfer Station. The Town also owned and operated the subject Site from 1978 through 2021, and is the owner of the intervening wetland area located southeast of the former Sand Hill Landfill and north of the subject Site. Alta River's Edge, LLC acquired the subject Site from Wayland on February 25, 2021 and thus appears to qualify as a 'person' eligible to assert downgradient property status with respect to contamination that has migrated in groundwater onto the subject Site. However, the Town of Wayland is understandably averse to any assertion that contaminants such as per- and polyfluorinated alkyl substances (PFAS) originated at a property they own and have migrated to a different property if there is insufficient evidence (or only speculation) to support such assertion. The Town requests that Vertex and Alta River's Edge, LLC incorporate only direct evidence to support their DPSO and reference to it in the forthcoming PSS for RTN 3-36013.	References to the Sand Hill Landfill/Wayland Transfer Station as a potential source of oil and/or hazardous material (OHM) in groundwater at the Site have been removed from the Permanent Solution with No Conditions (PSNC).
PSS Report Running Header: Text page 28 of the draft PSS report (.pdf page 34) is followed by pages numbered 2-46 (.pdf pages 25-79). The Town of Wayland requests that Vertex fix this simple error in the running header of the PSS report.	This has been corrected in the final PSNC Statement.
Section 2.4.2 RTN 3-3474: In the second sentence of the second paragraph in this section of the draft PSS report (test page 7, .pdf page 13) Vertex identifies CMG as "CMG Environmental." Please note that our full business name is "CMG Environmental, Inc."	This has been corrected in the final PSNC Statement.

Comments Received on the Permanent Solution with No Conditions Statement	
Public Comment	**Response**
Section 6.1.3 Fate and Transport Characteristics of OHM: The second full sentence of the first paragraph on text [second] page 11 (.pdf page 44) includes the numerically irregular value "10 x 10^{-5} atm-m^3/mol" in discussing Henry's Law constants for the polynuclear aromatic hydrocarbons (PAHs) benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and phenanthrene. The value reduces mathematically to 1x10^{-4}, which would not be true for the Henry's Law constant of benzo(a)pyrene in these units. [Literature values for the Henry's Law constants of these PAHs are: benzo(a)pyrene = 3.74x10^{-2} atm-m^3/mol, benzo(b)fluoranthene = 1.22x10^{-5} atm-m^3/mol, dibenzo(a,h)anthracene = 7.30x10^{-8} atm-m^3/mol and phenanthrene = 3.93x10^{-5} atm-m^3/mol.] The Town of Wayland requests that Vertex clarify the mathematical value to which they are comparing Henry's Law constants.	The final PSNC Statement has been changed to reflect the reduced numerical value. Additionally, VERTEX used the Henry's Law Constants for the identified PAHs published in the MCP Toxicity spreadsheet (MCP Numerical Standards Development Spreadsheets - Toxicity). The MCP Toxicity spreadsheet list the following Henry's Law Constants for the identified PAHs: Benzo(a)pyrene: 4.57x10^{-07} atm-m3/mol Benzo(b)fluoranthene: 6.57x10^{-07}atm-m3/mol Dibenzo(a,h)anthracene: 1.23x10^{-07} atm-m3/mol Phenanthrene: 4.23x10^{-05} atm-m3/mol
Section 7.0 Method 2 Risk Characterization: The first paragraph on text [second] page 18 (.pdf page 51) of the draft PSS report ends with the sentence "As such, this PSNC Statement does not address OHM in groundwater." This in not completely true - while the draft PSS report attributes dissolved arsenic, dissolved nickel, and PFAS compounds in groundwater to an off-site source (likely the west-abutting Sudbury Landfill/Transfer Station), Vertex attributes elevated levels of dissolved antimony, lead, and copper identified in Property groundwater to historic firing range use by Wayland Police personnel. Similarly, the second paragraph on text [second] page 25 (.pdf page 58) ends with the sentence "Therefore, groundwater is not considered to be an impacted medium for this PSNC." The Town of Wayland requests that Vertex revise the two above-referenced paragraphs to more accurately reflect other portions of their PSS report.	Dissolved antimony and lead were not detected above laboratory detection limits in groundwater samples collected from the Site, and dissolved copper was detected at a maximum concentration of 7.4 micrograms per liter (µg/L), significantly below the MCP RCGW-1 Reportable Concentration of 10,000 µg/L. Additionally, the draft PSNC text or tables did not include a reference that these dissolved metals were constituents of concern within Site groundwater. Therefore, the comment indicating that “Vertex attributes elevated levels of dissolved antimony, lead, and copper identified in Property groundwater to historic firing range use by Wayland Police personnel” is inaccurate. VERTEX collected groundwater samples for dissolved antimony, lead, and copper prior to, and following soil stabilization activities within the firing range; however, the three dissolved metals were either not detected at concentrations exceeding above the laboratory detection limit, or were detected at concentrations significantly below MCP Method 1 RCGW-1 standards. The extent of OHM detected in groundwater at the Site at concentrations exceeding above applicable standards was addressed in the final DPS Opinion, and therefore the PSNC Statement does not address OHM in groundwater.

Comments Received on the Permanent Solution with No Conditions Statement	
Public Comment	**Response**
Table 8: Exposure Point Concentrations for Post-Excavation Firing Range Soil: Vertex calculated the exposure point concentrations (EPCs) listed in Table 8 (.pdf page 122) for total antimony (1.9 mg/kg), copper (38 mg/kg), and lead (53 mg/kg) using the simple arithmetic mean average concentration in samples representative of soil remaining at the Property analyzed for these metals. There appears to be either a math error or a rounding error in the antimony EPC: use of one-half the laboratory reporting limit as a surrogate value for non-detects (as discussed in Section 7.3.3 of the draft PSS - see text [second] page 32, .pdf page 66) yield an arithmetic mean average EPC of only 1.1 mg/kg, while use of the full laboratory reporting limit as surrogate values yields a mean average EPC of 2.0 mg/kg (1.96 mg/kg at three significant figures). More importantly, Section 7.3.3 of the draft PSS report also discusses the use of EPA's ProUCL software to determine "upper bound concentrations of interest" (i.e., the 95% upper confidence level [UCL] at the 5% significance level). CMG used ProUCL to evaluate the statistics of the total copper and lead data sets. This software determined that the data sets for both these metals were <u>not</u> normally distributed, which indicates that use of the simple arithmetic mean average concentration is a poor choice to calculate EPCs. CMG's evaluation of the total copper and lead data sets found that in both cases the ProUCL software recommended use of the "95% Adjusted Gamma" as the most reliable estimator of the 95% UCL. To two significant figures, the calculated values of this parameter were 54 mg/kg for total copper and 76 mg/kg for total lead. These estimated EPC values are significantly higher than the arithmetic mean average values which Vertex calculated, yet still substantially below the respective Method 1 (or Method 2) risk characterization standards for total lead and total copper. The Town of Wayland requests that Vertex employ ProUCL software to re-evaluate EPCs for total copper and lead (and also antimony, which requires additional computation due to the large number of non-detect results).	As indicated in the notes section in both Table 7 (.pdf Page 121) and Table 8 (.pdf Page 122): "The arithmetic mean was calculated using USEPA ProUCL Software, Version 5.1.002 (5.1). Both detected concentrations and results below detection limits were used to calculate arithmetic mean concentrations." As of 2013, USEPA no longer recommends using one-half the laboratory reporting limit as a surrogate value for non-detects (NDs; as discussed in Section 7.3.3; .pdf Page 65). The Method 2 incorporates recommendations from more recent USEPA ProUCL Version 5.0.00 Technical Guide (2013) to instead use statistically superior parametric and nonparametric methods now available in its ProUCL software to compute upper bound concentrations of interest for data sets that include NDs. As provided in Appendix E, General Statistics for Censored Data Set (with NDs) using Kaplan Meier (KM) Method, the KM Mean represents the statistically superior method in calculating the representative arithmetic mean average concentration, which was then selected as the exposure point concentration (EPC). As indicated on Table 8, because the KM Mean meets the requirements of the MCP (310 CMR 40.0926(3)(b)1) when selecting a conservative EPC, deriving the 95% upper confidence level (95UCL) is not required. In other words, because the criteria specified in 310 CMR 40.0926(3)(b)1 are met, 310 CMR 40.0926(3)(c) does not apply.

July 7, 2022

Ms. Kristen Sarson
Project Manager
The Vertex Companies, Inc.
100 North Washington Street, Suite 302
Boston, MA 02114-2128

Re: Public Commentary on
4/19/22 Downgradient Property Status Opinion (DPSO) &
6/9/22 Draft Permanent Solution with No Conditions Statement (PSS)
for the River's Edge Development
484-490 Boston Post Road, Wayland, Massachusetts
Release Tracking Numbers (RTNs) 3-36013 & 3-37278
CMG ID 2017-160

Dear Ms. Sarson:

The following is public commentary on the two above-referenced documents for the River's Edge Development Project (the Site) prepared by The Vertex Companies, Inc. (Vertex). Comment on the DPSO is likely moot since Alta River's Edge, LLC submitted that document via eDEP on April 19, 2022. Nonetheless, it is a Public Involvement Plan (PIP) document, as is the PSS for RTN 3-36013 (which relies in part on the DPSO for RTNs 3-36013 & 3-37278). The public comment period for the draft PSS runs through July 7, 2022.

For the record, the Wayland Board of Selectmen has retained CMG Environmental, Inc. (CMG) to provide technical review of document submittals and other activities at the Site on behalf of the Town of Wayland, especially those that involve compliance with Massachusetts Department of Environmental Protection (DEP) requirements and the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). As before, CMG has prefaced our comments with Vertex's heading designations for ease of comparison, used uppercase Roman numerals to identify each comment, and endeavored to limit comments to substantive issues.

DOWNGRADIENT PROPERTY STATUS OPINION

[Closed Sand Hill Landfill]

I) On March 4, 2022 CMG provided public commentary on the February 17, 2022 draft DPSO on behalf of the Town of Wayland. Vertex provided written responses to all received public comments on the draft DPSO on April 19, 2022.

Commentary on the draft DPSO provided by Ms. Anette Lewis noted that attributing groundwater contamination to the former Sand Hill Landfill (currently occupied by the Wayland Transfer Station) was speculative. In response to Ms. Lewis' comment, Vertex deleted reference to the former Sand Hill Landfill in Section 1.0 of the final DPSO, and added a long sentence to the end of

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STURBRIDGE, MA 01566

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Section 5.2 in the final DPSO stating there was "no current evidence" to conclude that contaminant releases at the former Sand Hill Landfill had migrated to the wetland area that abuts the subject Site to the north and from there migrated onto the subject Site at 484-490 Boston Post Road.

In pertinent part, Section 40.0183(2) of the MCP states that "any present or past owner or operator of a downgradient or downstream property" may provide a DPSO to DEP if "such person is not, and was not at any time, affiliated with any other person who owned or operated the property from which the release" originated. The Town of Wayland owned and operated the former Sand Hill Landfill and owns and operates the current Wayland Transfer Station. The Town also owned and operated the subject Site from 1978 through 2021, and is the owner of the intervening wetland area located southeast of the former Sand Hill Landfill and north of the subject Site. Alta River's Edge, LLC acquired the subject Site from Wayland on February 25, 2021 and thus appears to qualify as a 'person' eligible to assert downgradient property status with respect to contamination that has migrated in groundwater onto the subject Site.

However, the Town of Wayland is understandably averse to any assertion that contaminants such as per- and polyfluorinated alkyl substances (PFAS) originated at a property they own and have migrated to a different property if there is insufficient evidence (or only speculation) to support such assertion. The Town requests that Vertex and Alta River's Edge, LLC incorporate only direct evidence to support their DPSO and reference to it in the forthcoming PSS for RTN 3-36013.

DRAFT PERMANENT SOLUTION STATEMENT

[PSS Report Running Header]

II) Text page 28 of the draft PSS report (.pdf page 34) is followed by pages numbered 2-46 (.pdf pages 35-79). The Town of Wayland requests that Vertex fix this simple error in the running header of the PSS report.

1.1 Introduction

2.4.2 RTN 3-3474

III) In the second sentence of the second paragraph in this section of the draft PSS report (text page 7, .pdf page 13) Vertex identifies CMG as "CMG Environmental." Please note that our full business name is "CMG Environmental, Inc."

6.1 Conceptual Site Model

6.1.3 Fate & Transport Characteristics of OHM

IV) The second full sentence of the first paragraph on text [second] page 11 (.pdf page 44) includes the numerically irregular value "10 x 10^{-5} atm-m^3/mol" in discussing Henry's Law constants for the polynuclear aromatic hydrocarbons (PAHs) benzo(a)pyrene, benzo(b)fluoranthene, dibenzo (a,h)anthracene, and phenanthrene. This value reduces mathematically to 1×10^{-4}, which would not be true for the Henry's Law constant of benzo(a)pyrene in these units. [Literature values for the Henry's Law constants of these PAHs are: benzo(a)pyrene = 3.74×10^{-2} atm-m^3/mol, benzo(b)fluoranthene = 1.22×10^{-5} atm-m^3/mol, dibenzo(a,h)anthracene = 7.30×10^{-8} atm-m^3/mol & phenanthrene = 3.93×10^{-5} atm-m^3/mol.]

The Town of Wayland requests that Vertex clarify the mathematical value to which they are comparing Henry's Law constants.

6.3 Evaluation of Analytical Data
6.3.1 Sampling Rationale, Spatial Sampling, and Testing
Spatial Distribution and Rationale for Groundwater Sampling
7.0 METHOD 2 RISK CHARACTERIZATION
V) The first paragraph on text [second] page 18 (.pdf page 51) of the draft PSS report ends with the sentence "As such, this PSNC Statement does not address OHM in groundwater." This is not completely true – while the draft PSS report attributes dissolved arsenic, dissolved nickel, and PFAS compounds in groundwater to an off-site source (likely the west-abutting Sudbury Landfill/ Transfer Station), Vertex attributes elevated levels of dissolved antimony, lead, and copper identified in Property groundwater to historic firing range use by Wayland Police personnel.

Similarly, the second paragraph on text [second] page 25 (.pdf page 58) ends with the sentence "Therefore, groundwater is not considered to be an impacted medium for this PSNC."

The Town of Wayland requests that Vertex revise the two above-referenced paragraphs to more accurately reflect other portions of their PSS report.

Table 8 - Exposure Point Concentrations for Post-Excavation Firing Range Soil
VI) Vertex calculated the exposure point concentrations (EPCs) listed in Table 8 (.pdf page 122) for total antimony (1.9 mg/Kg), copper (38 mg/Kg), and lead (53 mg/Kg) using the simple arithmetic mean average concentration in samples representative of soil remaining at the Property analyzed for these metals. There appears to be either a math error or a rounding error in the antimony EPC: use of one-half the laboratory reporting limit as a surrogate value for non-detects (as discussed in Section 7.3.3 of the draft PSS – see text [second] page 32, .pdf page 66) yields an arithmetic mean average EPC of only 1.1 mg/Kg, while use of the full laboratory reporting limit as surrogate values yields a mean average EPC of 2.0 mg/Kg (1.96 mg/Kg at three significant figures).

More importantly, Section 7.3.3. of the draft PSS report also discusses use of EPA's ProUCL software to determine "upper bound concentrations of interest" (i.e., the 95% upper confidence level [UCL] at the 5% significance level). CMG used ProUCL to evaluate the statistics of the total copper and lead data sets. This software determined that the data sets for both these metals were not normally distributed, which indicates that use of the simple arithmetic mean average concentration is a poor choice to calculate EPCs.

Paragraph 310 CMG 40.0926(3)(c) of the MCP reads as follows:

> For chronic and subchronic exposures (other than for screening evaluations), the use of maximum concentrations or the 95th percentile upper confidence limit on the mean, whichever is lower, shall be used to estimate an Exposure Point Concentration when the criteria specified in 310 CMR 40.0926(3)(b) are not met. In such cases, the sample size is likely to be insufficient for the simple mathematical arithmetic average to estimate the true value with reasonable confidence and there is considerable probability of substantially underestimating the mean.

CMG's evaluation of the total copper and lead data sets found that in both cases the ProUCL software recommended use of the "95% Adjusted Gamma" as the most reliable estimator of the 95% UCL. To two significant figures, the calculated values of this parameter were 54 mg/Kg for total copper and 76 mg/Kg for total lead. These estimated EPC values are significantly higher than the arithmetic mean average values which Vertex calculated, yet still substantially below the respective Method 1 (or Method 2) risk characterization standards for total lead and total copper.

The Town of Wayland requests that Vertex employ ProUCL software to re-evaluate EPCs for total copper and lead (and also total antimony, which requires additional computation due to the large number of non-detect results).

Thank you in advance for your timely response to this public commentary on behalf of the Town of Wayland.

Sincerely,
CMG ENVIRONMENTAL, INC.

Benson R. Gould, LSP, LEP
Principal

cc: Wayland Board of Selectmen (% Town Administrator Stephen Crane)

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