Comments Received on the Draft Downgradient Property Status Opinion Report	
Public Comment	**Response**
General Comment: As Vertex is well aware, DEP has issued RTN 3-37278 to identify the reportable concentration of per- and polyfluorinated alkyl substances (PFAS) in groundwater which Alta Rivers Edge, LLC notified DEP about on February 8, 2022. The Town of Wayland notes that Vertex should replace all instances of "RTN XXXXXX" and "RTN 3-XXXXX" in the final DPS Opinion with "RTN 3-37278."	This has been updated in the final DPS Opinion Report.
Section 1.0: It would appear that from the data presented on Figures 4A through 4C, the closed Sand Hill Landfill cannot be said to be hydraulically upgradient from the River's Edge site. Any attribution of that facility being the source of the constituents detected in groundwater or that the constituents of concern are coming onto the site from property due north is pure, unsubstantiated speculation. Please remove the references here and elsewhere in the report.	The Sand Hill Landfill is located northwest of the Site and is located immediately north of a wetland area that, based on aerial photographs, may be hydrogeologically connected to the wetland area abutting the Site. VERTEX acknowledges there is no data upon which to conclude that a releases of oil or hazardous materials from the Sand Hill Landfill has migrated to the Site. Some stormwater and groundwater from the area of the Sand Hill Landfill would be expected to discharge to the wetland and landfills are considered likely sources of PFAS release to the environment; however, the Sand Hill Landfill has not been conclusively shown to be a source of PFAS or metals release to the Site. The DPS Opinion has been modified to note the existence of the Sand Hill Landfill as a potential source of PFAS and metals release to the area and to clarify it is not a known source of contaminant migration to the Site. Future investigations of potential sources of the PFAS release, particularly the PFAS that is migrating onto the Site from the northerly abutting wetland, should evaluate whether the Sand Hill Landfill is a contributing source to PFAS in the wetland.
Section 2.1: See comment re: Section 1.0 above.	
Section 2.1: Section 310 CMR 40.0183(4)(e) requires that a DPS Opinion provide "a plan showing the downgradient or downstream property and the disposal site boundaries (to the extent known)…" The first paragraph on text page 2 of the draft DPS report indicates that Figure 2 shows the "known Disposal Site boundaries." However Figure 2 in the draft DPS report (Site Schematic) shows the RTN 3-34474 boundary; that RTN is for asbestos issues in soi formerly stockpiled at the Property and unrelated to the DPS Opinion. Figure 3 in the draft DPS Report (Surrounding Properties) shows the estimated boundaries of RTNs 3-36013 and "3-XXXXX" (i.e., 3-37278). Figure 3 shows the easterly (downgradient) extent of RTN 3-37278 approximately 30' beyond the easterly Property boundary when in fact Vertex does not know the extent of PFAS contamination beyond Property boundaries; in such cases it is customary to leave the extent open (as Vertex did with the westerly (upgradient) bound, or else use a lesser line weight to indicate 'extent unknown.' The Town of Wayland requests that Vertex correct their reference at the end of Section 2.1 in the final DPS Opinion to indicate Figure 3 and also alter the current yellow dotted line to indicate that the easterly extent of PFAS contamination in groundwater is not yet known.	This has been updated in the final DPS Opinion Report.
Section 2.2: During the February 17, 2022 public meeting, Mr. Sciacca of the SuAsCo River Stewardship Council explained that the Sudbury River is much closer to the property than the 1,400 feet stated in your report. Please confirm and revise the distance accordingly.	The distance to the river has been updated in the final report.
Section 2.3: In initial comments on the draft Public Involvement Plan (PIP), you were advised that the previous use of the site was by the Wayland-Sudbury Septage Treatment Facility (as distinct from the Town of Wayland wastewater treatment plant which is located within the Town Center shopping center). Although you did revise it in the final PIP, for some reason you reverted to the confusing nomenclature here. Please revise the reference here to avoid confusion to future readers. The Wayland Department of Public Works did not come into existence until 2010. The Wayland Highway Department was the organization that stored stockpiles on the site in the early years.	This has been updated in the final DPS Opinion Report.

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Section 2.5.3 (& 4.2 & 8.1): On text page 8 of the draft DPS report, Vertex notes that ammonia identified as an RCGW-1 reportable concentration exceedance (at 2 mg/L) may not be an actual exceedance because the laboratory analysis was for total ammonia as nitrogen and the MCP has no reportable concentration standards for either ammonia as nitrogen or total ammonia. Vertex repeats this conclusion in the last paragraph on text page 22 of the draft DPS report and summarizes it again in the first bullet on text page 9 of the report. However, DEP did promulgate an RCGW-1 reportable concentration of 1 mg/L for (dissolved) ammonia in Subpart P of the MCP. Vertex had groundwater samples they collected from the Property on April 2, 2019 analyzed for several nitrogen parameters (ammonia as N, nitrate as N, nitrite as N, total Kjeldahl nitrogen & total nitrogen). However, they did not analyze any groundwater samples from the property for dissolved ammonia (which can be done as a screening test on field-filtered samples using an ion-selective electrode, similar to pH testing). The Town of Wayland requests that Vertex either test groundwater samples from the Property for dissolved ammonia to verify or refute whether this parameter is present at or above reportable concentrations, or else provide an explanation as to why such testing is not necessary in their final DPS Opinion.	VERTEX analyzed groundwater at the property for constituents of concern based upon previous subsurface investigations and based on specific requests by the Town of Wayland. Although, there are no promulgated RCGW-1 Reportable Concentrations for total ammonia as nitrogen , the groundwater flow direction and detected concentration gradient of total ammonia as nitrogen indicate that it is most likely originating from the upgradient landfill. The highest concentrations of total ammonia as nitrogen at the Site were detected in groundwater samples collected from wells V-302(MW) and V-303(MW) located at the western edge of the Site and immediately downgradient of the landfill, and not in locations where impacts from the historical operation of the former Wayland-Sudbury Septage Treatment Facility would be expected. The concentration of total ammonia as nitrogen detected in well V-306(MW) located in the former septage facility infiltration bed, which is also located at the western edge of the Site and immediately downgradient of the landfill, was lower than the concentrations detected in wells V-302(MW) and V-303(MW), which is consistent with a conceptual site model of well V-306(MW) being located downgradient of less of the landfill waste mass than wells V-302(MW) and V-303(MW), which are located downgradient of the center of the landfill waste mass. This is supported by historical aerial photographs showing the area of landfill activity (see publicly available historical aerial photographs at www.historicalaerials.com). This distribution of total ammonia as nitrogen is also consistent with the cessation of activity at the former Wayland-Sudbury Septage Treatment Facility 11 years ago. Additionally, the speciation of ammonia present within groundwater is highly dependent on pH and water temperatures. The higher the pH and warmer the water, the more prevalent ammonia would be. Based on pH measurements of groundwater at the property (5.8 to 6.7), and average Massachusetts groundwater temperatures, the speciation of ammonia most likely to be present is the less harmful ammonium (which does not have a promulgated RCGW-1 Reportable Concentration). Therefore, based on an absence of a current source of ammonia at the property, the mapped groundwater flow and gradient of total ammonia detects across the property, and measured groundwater pH, dissolved ammonia was not considered for this investigation. VERTEX also notes, that any historical releases of ammonia from the former Wayland-Sudbury Septage Treatment Facility would be exempt from the MCP notification requirements pursuant to 310 CMR 40.0317(10) and that concentrations of total ammonia as nitrogen were not detectable in groundwater samples collected the two furthest downgradient monitoring wells at the Site. The table summarizing groundwater analytical results in the DPS Opinion has been modified to clarify, consistent with the laboratory reports, that both the 2019 and 2020 groundwater samples were analyzed for total ammonia as nitrogen by the same analytical method.
Section 3.2.1: The last sentence of the first paragraph on text page 14 of the draft DPS report indicates that Con-Test Analytical Laboratory (Con-Test, of East Longmeadow MA) conducted soil testing for the 11 listed parameters. It is true that Vertex had Con-Test analyze soil samples for 10 of those parameters. However, Vertex submitted samples for the 11th listed parameter (asbestos) to CEI Labs, Inc. of Cary, North Carolina. The Town of Wayland requests that Vertex correct this slight error in their final DPS Opinion.	This has been updated in the final DPS Opinion Report.

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Section 5.1: Please remove the Wayland Transfer Station from Section 5.0 because, from the data that has been presented, there are no data to support its being upgradient of the site. The September 19, 2019 GeoHydroCycle, Inc. "Hydrogeologic Evaluation and Groundwater Mounding Analyses" submitted to Kevin Brander of the DEP, at page 4 (page count 110 of the DPS Report), states that based on groundwater elevation data, "groundwater flows in an easterly direction toward the Sudbury River and adjoining wetlands at a gradient of 0.00129 feet per foot (1.3 feet in 1,000 feet)." See Figure 6 "Groundwater Elevation Contours, 8/1/19" in that GeoHydroCycle, Inc. report at page count 123 of your DPS Report. None of the data collected since that time shows any appreciable difference from which to infer a different flow direction (see Figures 4A through 4C and Table 3).	Please see answer above.
Section 7.0: I) At page 33, under (c), please clarify what is meant by "the extent of non-retarded PFAS migration at relatively uniform concentrations would be expected to be much greater than the observed extent". Because of the difficult syntax being used, the reader cannot understand the point that is trying to be conveyed. II) At page 33, under (e), rather than the cursory statement that "the groundwater in well V-201(MW) flows from the wetland", please provide substantive numerical detail and dates of data acquisition to support the statement. III) At page 37, under (f), the report argues that there are no readily apparent effects to human health because of "the average depth to water across the Site (24 feet bgs)". However, on page 26, the report states that "depth to water is approximately 15 to 30 feet bgs." Isn't it the 15 foot bgs that is the most relevant? Please clarify in the text.	I) This statement is meant to describe the rate of PFAS migration across the property. If the PFAS migrated at the same rate as the estimated advective groundwater flow rate (336 to 572 feet per year), it would be expected that the detected concentrations of PFAS would be uniform across the property. However, detections decreased across the property. PFAS is not amenable to natural degradation and PFAS releases from the landfill have likely been ongoing for many years, therefore the most likely explanation for the observed distribution is natural retardation of PFAS migration from organic carbon adsorption and dilution. Therefore, the rate of PFAS migration is lower than the estimated groundwater flow rate. II) According to the groundwater flow directions calculated from groundwater depth measurements collected on October 10 and 11, 2021, and February 7, 2022, the wetlands appear to influence groundwater conditions at the property. The groundwater elevations measured on February 7, 2022, best illustrate the groundwater flow from the wetland. The highest groundwater elevations on that date were clearly located in the northwestern portion of the Site. Given the measured groundwater elevations, VERTEX has not identified any reasonable groundwater flow direction scenario that would not show groundwater flow from the wetland onto the Site. Additionally, the highest concentration of PFAS in groundwater detected on the property was in the groundwater sample collected from V-201 (MW), the furthest north monitoring well, which is located approximately 60 feet due west and approximately 50 feet due south of the wetland. Given the measured groundwater elevations, there is no feasible groundwater flow direction to the location of well V-201(MW) that doesn't emanate from the wetland. Based on the mapped groundwater flow and the absence of potential sources of PFAS near the well, it is likely that PFAS is present within the wetlands directly north of monitoring well V-201 (MW). III) This has been updated in the report.
Section 8.1: 8.1 at page 40, first bullet under (b), kindly remove the words "and potentially downgradient of the Sand Hill Landfill." As stated previously, no data has been presented to support, or from which one could conclude, that the Sand Hill Landfill is upgradient or upstream of the site	Please see answer above.
Section 8.2: 8.2 at page 43, there is reference to the Sand Hill Landfill as a potential source of the constituents of concern at the site. The MCP requirement is that the DPS Opinion "shall include an explanation and documentation of the technical basis for the conclusions stated (emphasis supplied)." Please clearly support this statement with already collected data or remove it from your conclusion.	Please see answer above.