
November 4, 2019

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**Re: Review of Available Environmental Reports
Proposed River's Edge Development
484-490 Boston Post Road, Wayland MA
CMG ID 2017-160**

To Whom It May Concern:

CMG Environmental, Inc. (CMG) prepared this letter in response to requests from the Town of Wayland to provide Licensed Site Professional (LSP) review of available documentation related to environmental issues at the proposed River's Edge Development (the Site). We have specifically focused on the following Site reports:

- 8/7/19 "Phase I Environmental Assessment & Phase II Limited Site Investigation" prepared by The Vertex Companies, Inc. (Vertex) of Boston, Massachusetts;
- October 2012 "Phase I Environmental Assessment and Limited Phase II Investigation Report" prepared by Tighe & Bond, Inc. (T&B) of Worcester, Massachusetts.

CMG also reviewed documentation available online from the Wayland Planning Department "River's Edge Development" webpage (<https://www.wayland.ma.us/planning-board-department/pages/rivers-edge-development>) and the Massachusetts Department of Environmental Protection (DEP) "Waste Site & Reportable Releases" search page (<https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>).

2019 VERTEX REPORT

Vertex conducted a thorough Phase I Environmental Site Assessment (ESA) in accordance with ASTM Standard E 1527-13 and the EPA 'All Appropriate Inquiry' (AAI) final rule (11/1/05, as amended 12/30/13). Their ESA identified the following recognized environmental conditions (RECs):

- Abutting municipal landfills to the northwest (Wayland) and west (Sudbury),
- Use of a portion of the Site as a firing range from the mid-1970s through 2017,
- Use of a portion of the Site as a wastewater treatment plant from 1993-2009,
- Historical release of oil to the wastewater treatment plant (RTN¹ 3-1724),
- Hazardous materials storage at the former wastewater treatment plant,
- Past underground storage tanks (USTs) at the former wastewater treatment plant,
- The presence of large soil material stockpiles at the Site, and
- Identification of asbestos-containing building materials (ACBM) in the largest soil stockpile (RTN 3-34474).

Vertex concluded that RTN 3-1724 constituted a 'Historical REC' which did not warrant further investigation, and RTN 3-34474 constituted a 'Controlled REC' properly addressed under applicable DEP regulations.

CMG believes Vertex should have also considered floor drains within Site buildings as a REC. Photograph #10 in Appendix A of their report depicts a trench-type drain in the scale room of the main Site building garage and Photograph 20 depicts floor drains in the 'machine area' of that building's basement. The table in Section 7.2 (Site Observations) of the Vertex ESA report states:

Trench drains were observed within the garage area of the building, and the basement of the building. According to available plans, the trench drains were directed to a deep sump drain. Evidence of staining or a release was not observed near the drains; as such, no concerns were noted.

The Vertex report does not provide any further information regarding the 'deep sump drain.'

Vertex conducted a Phase II Limited Site Investigation (LSI) to investigate identified Site RECs. This included:

- Ground-penetrating radar and electromagnetic surveys to identify underground utilities and potential abandoned USTs;
- Excavation of 39 test pits within the largest (32,000 cubic yard) and smaller (4,500 cubic yard) soil stockpiles with field-screening of soil samples, visual identification of suspect ACBM, and collection of 85 composite samples for laboratory waste classification analyses;
- Advancement of 16 soil borings with field screening of soil samples and laboratory analysis of 10 select samples for environmental assessment and waste classification parameters;
- Completion of 6 of the soil borings as monitoring wells, with collection of groundwater samples from each (and also from one pre-existing Site monitoring well) for selected laboratory analyses;

¹ RTN = Release Tracking Number, issued by DEP to identify a particular release of oil and/or hazardous material.

- Installation of 6 soil vapor points with screening of soil vapor for flammable gases and carbon monoxide, and collection of soil vapor samples for laboratory methane analysis; and
- Collection of 21 shallow soil samples from the firing range portion of the Site for laboratory total metals analysis.

CMG opines that the Vertex LSI provided sufficient information to sufficiently investigate the Site to answer the question of whether or not a release of oil and/or hazardous materials had occurred within each identified Site REC (and also if the 'deep sump drain' had caused any such release). Vertex identified several 120-day reportable conditions at the Site in the course of their LSI investigation:

- Twenty-two soil samples collected from test pits in Site soil stockpiles exhibited total petroleum hydrocarbon (TPH) concentrations above the applicable (RCS-1) DEP reportable concentration standard of 1,000 mg/Kg [Vertex requested additional extractable petroleum hydrocarbon (EPH) analysis of these samples and determined that none of them had RCS-1 exceedances of EPH carbon fractions];
- Twelve test pit soil samples exhibited exceedances of the RCS-1 standard for one or more polynuclear aromatic hydrocarbons (PAHs);
- Two test pit soil samples exhibited exceedances of the RCS-1 standard for total lead;
- One groundwater sample exceeded the applicable (RCGW-1) DEP reportable concentration standard for soluble arsenic;
- One groundwater sample exceeded the RCGW-1 standard for soluble nickel;
- Four groundwater samples exceeded the RCGW-1 standard for ammonia;
- Four shallow soil samples from the firing range portion of the Site exhibited RCS-1 exceedances for total antimony;
- Four firing range soil samples exhibited RCS-1 exceedances for total copper; and
- Six firing range soil samples exhibited RCS-1 exceedances for total lead.

Laboratory analysis identified leachable lead via the toxicity characteristic leaching procedure (TCLP) greater than its hazardous waste characteristic value (5 mg/L) in 7 of the 21 shallow soil samples from the firing range. This is not a DEP reporting condition, but does suggest that contaminated soil excavated from the firing range portion of the Site may require proper disposal as a hazardous waste rather than as a remediation waste (which is significantly more expensive; the disposal cost for lead characteristic hazardous waste soil is approximately \$435/ton).

Field screening of the 6 soil vapor points identified initial carbon monoxide from 11-120 ppmv (parts-per-million by volume) and initial flammable gas concentrations of 1% to 10% of the lower explosive limit (LEL). Paragraph 310 CMR 40.0321(1)(a) of the Massachusetts Contingency Plan requires two-hour DEP notification for an Imminent hazard condition posed by:

A release to the environment which results in the presence of oil and/or hazardous material vapors within buildings, structures, or underground utility conduits at a concentration equal to or greater than 10% of the Lower Explosive Limit.

Vertex noted that purging gas from the vapor points caused these readings to almost immediately drop to zero. Furthermore, they did not obtain their LEL readings 'within buildings, structures, or underground utility conduits' so they do not meet the regulatory definition of an Imminent Hazard condition. Thus Vertex's soil vapor screening readings are not actual DEP reporting conditions, but they are of concern for potential future vapor migration into the planned residential buildings at the River's Edge development.

The additional EPH testing Vertex conducted demonstrates that TPH exceedances are not actual 120-day reporting conditions. However, RCS-1 exceedances of PAHs, total antimony, total copper, and total lead in soil and RCWW-1 exceedances of soluble arsenic, soluble nickel, and ammonia in groundwater do constitute actual 120-day reportable conditions.

DEP regulations require owners or operators of a property to report such exceedances in writing within 120 days of the date of knowledge using a "Release Notification Form" (BWSC103) on their web-based 'eDEP' electronic submittal system. The current property owner is the Town of Wayland (Highway Department). The earliest date that could start the 120-day time frame is the date of the analytical laboratory report for test pit soil samples collected on March 11, 2019. However, that laboratory data package is not included in the Vertex report. The dates of other laboratory data packaged included as Appendix J to the Vertex report range from 7-9 days after the date of sample collection, so CMG presumes that Vertex obtained the lab report for the March 11, 2019 samples no earlier than March 18, 2019 (120 days after this date was 7/16/19). CMG believes it is unlikely that Vertex would have provided these data to Wayland piecemeal; the date of their final ESA & LSI report is August 7, 2019 (120 days after this date will be 12/5/19). Thus the 120-day time frame for DEP reporting will elapse on December 5, 2019 if the Town of Wayland first learned of the 120-day reporting conditions on August 7. CMG can assist the Town in making the required DEP notification and eDEP submittal.

LEGAL RELIANCE ISSUE

Section 12.6 of the Vertex report (User Reliance) states that their report:

... may be relied upon by Wood Partners, WP East Acquisitions, LLC, and any entities created to hold an investment to which this report relates, including the entity created to own the site and their respective affiliates, any of Wood Partners' auditors, legal counsel, consultants, advisors and debt and equity capital sources and any party that purchases an interest in the property (or an interest in an entity that directly or indirectly owns the property) from Wood Partners and a reference to this report may be included or quoted in a private placement memorandum, registration statement, prospectus, sales brochure, annual or quarterly reports, proxy statements, Forms 8-K or similar documents (in either electronic or hard format) issued, filed or released in connection with a sale, for firm securitization, or any loan on the property or other transaction or reporting involving the property referenced in this report.

Vertex did not extend such reliance to the Town of Wayland. Furthermore, Section 12.5 of the Vertex report (Special Terms and Conditions) states:

This report is for the exclusive use of Wood Partners, WP East Acquisitions, LLC, and the Wood Partners affiliated entity taking title to the site, and their lenders and equity partners with respect to the site. No other party shall have the right to rely on service provided by VERTEX without prior written consent. Use of this report by any other party shall be at the party's sole risk.

CMG recommends that Wayland obtain a Reliance Letter from Vertex stating that “the Town of Wayland may rely upon the information, representations, statements, conclusions and opinions contained in the August 7, 2019 Phase I Environmental Assessment & Phase II Limited Site Investigation report to the same extent as if Vertex had originally issued this report to the Town of Wayland” (or other wording to that effect).

2012 TIGHE & BOND REPORT

T&B conducted an ASTM Phase I ESA in accordance with ASTM Standard E 1527-05 and AAI. Their ESA identified the following RECs:

- Past USTs at the former wastewater treatment plant,
- Potential releases from the hazardous materials storage shed,
- Historic use of lead-containing bullets at the firing range,
- Elevated methane concentrations in soil gas along the westerly property line,
- Elevated arsenic in groundwater along the westerly property line, and
- The presence of large soil material stockpiles at the Site.

T&B stated they were not able to access the basement of the Site building or the interior of the hazardous waste shed at the Site.

T&B conducted a Phase II LSI of the Site in August 2012 on behalf of the Town of Wayland. This investigation included:

- Excavation of 12 test pits in the large soil stockpile;
- Field-screening of 82 surface or shallow soil samples and 6 deeper (1-2' below grade) samples in the firing range portion of the Property for total lead using a portable X-ray fluorescence (XRF) meter;
- Advancement of 7 soil borings in the former wastewater treatment plan portion of the Property;
- Installation of three soil gas monitoring points with field-screening for landfill gases; and
- Collection of groundwater samples from one existing Site monitoring well with laboratory analyses.

T&B identified suspect ACBM in the large soil stockpile (3 sections of Transite pipe). They recommended removal of materials such as suspect ACBM, railroad ties, asphaltic piping, and metal debris followed by processing to reduce asphalt, brick, and concrete debris to less than 6" diameter. (Note: Vertex later confirmed the presence of >1 pound of asbestos at the Site, prompting 2-hour DEP notification for RTN 3-34474.)

XRF screening identified elevated lead concentrations (>300 ppm) in surficial and shallow soil in the firing range portion of the Site but significantly lower lead concentrations in deeper soil. T&B recommended DEP reporting and removal of approximately 450 cubic yards of soil from the firing range in accordance with DEP regulations.

T&B did not observe any overt visual or field-screening evidence of contamination in their soil borings and thus did not collect soil samples for laboratory analysis, nor did they complete any as

groundwater monitoring wells. (Note: Vertex subsequently submitted soil samples for laboratory analysis and identified reportable concentrations of several PAHs and total lead. They also installed groundwater monitoring wells and identified reportable concentration exceedances of soluble arsenic, soluble nickel, and ammonia in groundwater samples.)

T&B measured methane at 29% of its LEL in their soil gas vapor point SG-1 (located within the firing range portion of the Site). They did not detect methane in their other two soil vapor points. T&B recommended that the Town of Sudbury report the elevated methane findings to DEP because their landfill monitoring requirements mandate such reporting if methane exceeds 25% of LEL. T&B noted that Sudbury was aware of elevated methane levels in the portion of their municipal landfill abutting the Site.

Groundwater analysis did not identify any contaminants at (or approaching) RCGW-1 standards.

T&B prepared their report for the Town of Wayland. Thus there is no need for the Town to seek a reliance letter for their work.

DIFFERENCES BETWEEN VERTEX AND T&B FINDINGS

Both T&B and Vertex observed Transite pipe in the large (32,000 yd³) soil stockpile at the Site. Vertex also observed additional suspect ACBM in this stockpile and submitted samples for laboratory polarized-light microscopy analysis to confirm the presence of asbestos.

T&B used XRF screening to delineate likely areas of elevated lead concentrations in shallow soil within the firing range portion of Site. Vertex collected soil samples for laboratory analysis from the identified areas, confirming the presence of elevated total and TCLP lead.

T&B did not observe visual evidence of soil contamination during their test pit investigation of the Site soil stockpiles and so did not collect samples for laboratory analysis, nor install any groundwater monitoring wells. Vertex did submit soil samples from their test pit excavations and identified reportable concentration exceedances of PAHs and total lead.

T&B installed 3 soil vapor points and screened these for landfill gases, identifying elevated methane in their point SG-1 (29% of LEL, equivalent to 14,500 ppmv). Vertex installed 6 soil vapor points, including V-SG-106 within the firing range portion of the Site (about 50' south of T&B vapor sampling point SG-1) and screened these using a four-gas² meter. Vertex detected flammable gas at an initial concentration of 10% LEL (5,000 ppmv) in V-SG-106, along with carbon monoxide at 120 ppmv; laboratory analysis of a soil vapor sample following purging did not identify any methane above the reporting limit of 50 ppmv. The flammable gas Vertex detected may have been methane (or a mixture of gases including methane). T&B did not report purging their soil vapor points, so their finding of methane at 29% of its LEL was likely the initial reading at point SG-1. A threefold difference in initial methane concentrations tested from nearly the same location adjacent to a municipal landfill nearly 7 years apart is not unexpected. It is noteworthy that Vertex reported all gas readings dropped quickly to zero upon purging their vapor points, and that finding is consistent with the lack of laboratory methane detection in any of their 6 vapor point sampling locations. CMG concludes that there is not a large volume of methane in soil vapor, but it does remain a concern for future buildings located at the Site.

² The four gases monitored by this instrument are hydrogen sulfide, carbon monoxide, oxygen, and LEL; such a device does not specifically test for methane.

Both T&B and Vertex sampled pre-existing one groundwater monitoring well at the Site, which T&B designated "Downgradient 1" and Vertex designated "MW-3." T&B identified 1.6 µg/L chlorobenzene, 4.7 µg/L methyl tertiary butyl ether (MTBE), and 6.4 µg/L tertiary amyl methyl ether (TAME) in their 8/29/12 groundwater sample from this well, but Vertex did not identify any volatile organic compounds (VOCs) in their 4/2/19 groundwater sample from this well (with laboratory reporting limits of 1.0, 1.0, and 2.0 µg/L, respectively for those 3 VOCs). CMG opines it likely that the identified VOCs either naturally attenuated (biodegraded) or else migrated downgradient in the nearly 7 years between sampling events.

WAYLAND-SUDBURY SEPTAGE FACILITY 2015 GROUNDWATER TESTING

T&B collected groundwater samples from 5 groundwater monitoring wells located either on Town of Sudbury property (wells D-3 & MW-2), the Site (MW-3), or downgradient of the Site (MW-4 & MW-5) on August 17, 2015. They had these samples analyzed for 15 soluble metals. Soluble arsenic in Sudbury wells D-3 (50.7 µg/L) and MW-2 (46.9 µg/L) exceeded the RCGW-1 standard for soluble arsenic (10 µg/L). Samples from all 5 wells exhibited soluble manganese concentrations which exceeded the Massachusetts Secondary Maximum Contaminant Level (for drinking water) of 50 µg/L, which is not a reporting condition (results ranged from 532-7,760 µg/L).

T&B's September 2, 2015 letter report on these findings includes historic data from Wayland-Sudbury Septage Facility wastewater treatment plant sampling of monitoring wells between January 2008 and December 2009. The groundwater data for March 2008 show elevated soluble mercury results (182-7,980 µg/L) in all wells tested but non-detects for every other sampling event between January 2008 and December 2009. Soluble manganese results were elevated (110-12,200 µg/L) for every month in this time interval except March 2008, when the results were all non-detect. T&B concluded that the manganese data for March 2008 were inadvertently switched with the mercury data for that month (the section for mercury reporting is directly beneath the section for manganese reporting). The August 2015 sampling T&B conducted did not detect soluble mercury in any groundwater samples (laboratory reporting limit 0.2 µg/L) but did identify substantial soluble manganese, as noted above. Furthermore, groundwater sampling Vertex conducted at the Site in April 2019 did not identify any soluble mercury (laboratory reporting limit 0.10 µg/L) but did identify substantial soluble manganese (73-7,000 µg/L). Therefore, CMG concurs with T&B that the reported mercury results from March 2008 are incorrect, and are probably the results for soluble manganese testing. Research into available wastewater treatment plant records may be able to confirm this hypothesis.

FINDINGS THAT MAY IMPACT PROPOSED DEVELOPMENT

The Town of Wayland has a 120-day reporting obligation to DEP based on the Vertex findings, as detailed above. CMG recommends that the Town seek a reliance letter from Vertex immediately, and duly notify DEP of the reportable concentration exceedances within the 120-day time frame specified by DEP regulations.

DEP will issue a new RTN to Wayland upon receipt of a release notification form BWSC103. Within one year of the date of notification, DEP expects to receive either a Permanent Solution (PS) Statement, a Downgradient Property Status Opinion (DPSO), or a Phase I – Initial Site Investigation and Tier classification submittal that addresses all reported exceedances. It is irrelevant to DEP whether the Town of Wayland or other parties (such as the Site developer or

future owner) conducts the work necessary to properly address reportable concentration exceedances or prepare and submit these reports.

Exceedances of PAHs and total lead identified by Vertex in test pit soil samples can be addressed through removal of impacted soil during Site redevelopment, or alternatively through imposition of a Notice of Activity and Use Limitation (AUL) on affected portions of the Site. (Note: only the property owner at the time of AUL recordation can impose this type of deed restriction on the Site property.) CMG recommends excavation of impacted soil and proper off-Site disposal to address total antimony, copper, and lead exceedances in soil concurrently with redevelopment activities.

CMG opines that some of the groundwater exceedances can be addressed through submittal of a DPSO citing the Sudbury municipal landfill as the source of soluble nickel, soluble arsenic, and (possibly) ammonia exceedances in Site groundwater. Vertex placed their monitoring well V-106 within a few feet of the westerly Site boundary (with the Sudbury landfill); samples from this well exhibited the highest ammonia concentration and the only identified soluble nickel exceedance in Site groundwater. Vertex well V-102, which exhibited the only soluble arsenic exceedance at the Site, is located hydraulically downgradient of the Sudbury landfill and off-Site groundwater samples collected from this abutting property (wells MW-2 & D-3) exhibited higher concentrations of soluble arsenic.

Methane, carbon monoxide, and ammonia present in Site soil vapor could infiltrate the lowest levels of any buildings constructed at the Site in the future. Therefore, CMG recommends installation of impermeable vapor barriers beneath these buildings, along with sub-slab ventilation systems. (Such precautions were taken during construction of mixed-use buildings and residential condominium buildings at the nearby Wayland Town Center project.) Architectural plans for the proposed River's Edge development indicate that the only underground portions of planned Site buildings are for vehicle parking. Standard ventilation in such structures (to prevent buildup of vehicle exhaust gases) should suffice to prevent any buildup of vapors migrating from the surrounding subsurface soil. However, CMG recommends collecting ambient indoor air samples from these parking areas to verify there is no excessive accumulation of methane, carbon monoxide, or ammonia vapors.

POTENTIAL IMPACT OF STORMWATER/TREATED WATER INFILTRATION

Groundwater flow modeling conducted for Onsite Engineering, Inc. in September 2019 by GeoHydroCycle, Inc. of Newton, Massachusetts indicates that construction of the proposed septic infiltration system for the planned River's Edge development will change the groundwater flow direction near monitoring well V-102 from easterly to northeasterly (towards other land owned by the Town of Wayland). Such a change might prevent groundwater with elevated soluble arsenic from impacting well V-102 in the future.

DEP requires that a PS Statement provide a CSM to account for various aspects of the Site contaminants of concern, including their environmental fate and transport. Significant changes in groundwater flow direction across the Site will affect the conceptual Site model (CSM) for fate and transport of environmental contaminants. Therefore, any PS Statement for the Site should consider Site groundwater flow in the past (when affected by infiltration at the former Wayland-Sudbury Septage Facility), present (under natural flow conditions), and future (planned River's Edge development stormwater and treated water infiltration) in its CSM.

CMG OPINION REGARDING ADDITIONAL ASSESSMENT

CMG believes that the LSI of the Site conducted by Vertex in 2019 was sufficient to investigate each of the concerns raised by the 2012 T&B LSI, and investigate each REC identified by ESAs that both T&B and Vertex conducted. The result of these environmental investigations is confirmation that reportable releases of oil and/or hazardous materials have occurred at portions of the Site (which is the goal of an ASTM Phase II LSI). The areas of identified reportable concentration exceedances will require further assessment to determine the full horizontal and vertical extent of such contamination, and/or confirmatory sampling to determine whether remediation (soil excavation) has removed sufficient contamination for the Site to achieve a PS.

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CMG trusts that the information in this letter is sufficient to address the concerns raised by Town of Wayland officials regarding environmental investigation of the subject Site. Please feel free to contact the undersigned if you have questions regarding the information contained within this letter, or if CMG can otherwise be of assistance to the Town of Wayland.

Sincerely,
CMG ENVIRONMENTAL, INC.



Benson R. Gould, LSP, LEP
Principal

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