Engineering
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MEMORANDUM

TO: Mark Tayrien, AICP, LaBella Associates, D.P.C.

CC: Wes Pettee, LaBella

FROM: Dennis Porter, CHMM, LaBella

DATE: September 10, 2013

RE: Pinnacle Athletic Campus

LaBella Associates (LaBella) and Boylan Code met with Passero Associates (Passero) on July 16, 2013 to discuss the Monitoring Well Results that were submitted to the Town on June 28, 2013, as well as other SEQR-related topics that will need to be addressed prior to the Planning Board taking action on the Pinnacle Athletic Campus site plan. As a result of those meetings LaBella requested that Passero Associates provide additional site-specific information regarding environmental conditions at the proposed development parcel. LaBella subsequently met with Passero on August 21, 2013 to preliminarily review the new site-specific sampling completed at the proposed development parcel.

The following summarizes LaBella's opinion of the collective information provided by the applicant to date regarding;

FORMER GENESEE SAND AND GRAVEL LANDFILL
748 PHILLIPS ROAD, FISHERS, NEW YORK 14453

SOIL GAS (METHANE):

The investigation conducted by SJB included 6 borings to approximately 20 feet in depth. Each boring was field screened using a Photoionization Detector (PID) and a Flame Ionization Detector (FID). The FID was equipped with a carbon filter in order to evaluate for methane (i.e., filtering out VOCs). The screening appears to have been completed on soil samples removed from the boring and screening above the recovered soils. The SJB report indicates that a background of 2 parts per million (ppm) was observed during the work and that the peak FID readings were 3 ppm, which may be attributable to moisture in the soil samples.

In regards to methane, the characteristics of methane include the following:

- Explosive range of 5% to 15%;
- Methane can be carried under pressure into overlying buildings and can also carry other VOCs with it; and

- At a high enough concentration, methane could displace oxygen and create and unsafe condition.

Conclusion:
Based on the above characteristics, the field observations did not identify concentrations of concern in relation to methane. Specifically, the field observations noted a maximum of 1 ppm above background on the FID which would equate to approximately 0.0001% methane which is well below any concentration of concern. In addition, the borings completed by SJB did not note odors that are typical of landfill gases, such as sulfur odor.

Note:

It should be noted that the testing completed for methane is a screening level approach and did not evaluate soil gas via soil gas sampling points. Furthermore, the concentration of methane in soil gases can vary over time based on a number of factors that include:

- Moisture of refuse source
- Composition of refuse
- pH
- preferential pathways

ON-SITE SOIL CONTAMINATION ASSOCIATED WITH THE FORMER LANDFILL:

The investigation conducted by SJB included the advancement of 6 soil borings to approximately 20 feet in depth. One (1) soil sample from each boring advanced within the boundaries of the proposed development parcel was submitted for laboratory analysis for United States Environmental Protection Agency (USEPA) Target Compound List (TCL) plus New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) volatile organic compounds. Soil samples were selected from the lower portion of each boring to be representative of the zone most likely impacted by the potential transport of constituents of concern from the closed landfill onto the proposed development parcel.

The analytical results indicate that USEPA TCL plus NYSDEC STARS volatile organic compounds were not detected in any of the soil samples submitted for laboratory analysis.

Conclusion:
Based on the above analytical results, on-site soils at the locations tested do not appear to have been impacted from the migration of VOCs from the former landfill onto the proposed development parcel.

ON-SITE GROUNDWATER CONTAMINATION ASSOCIATED WITH THE FORMER LANDFILL:

Groundwater was reportedly not encountered at the depths investigated. As such, no on-site groundwater monitoring wells were installed or sampled at the proposed development parcel as part of the SJB Investigation. Historical groundwater data was provided in the '2009 Annual Report' (February 17, 2010 - TriTech Environmental Health and Safety) associated with the Former Genesee Sand and Gravel Landfill. Groundwater data included within this report indicate;

- Inorganic Analysis of groundwater samples collected on October 7, 2009 indicate that constituents of concern were detected above the NYSDEC Part 703 Groundwater Effluent Limitations in select wells associated with the former landfill, including wells located on the proposed development parcel. These detections do not appear to represent a remedial concern associated with the proposed development parcel. If impacted groundwater is generated as part of construction all discharges should be managed in accordance with the applicable rules and regulations.

  Note:

  Historically recorded groundwater depths associated with the existing wells located on the development parcel range from approximately 30 to 45 feet below the existing ground surface. These reported groundwater depths appear to be well below any anticipated construction activities.

- Historical VOC Analysis of groundwater samples was only provided for one well, B6. B6 is located within the proposed development parcel and is located at the furthest sampling point west of the former landfill footprint. Although VOCs were detected above the NYSDEC Part 703 Groundwater Effluent Limitations during the previous sampling event (sampling date 11/10/08) no VOCs were detected above the method detection limits associated with the groundwater sample collected from B6 on July 8, 2009. No other VOC data was provided as part of the '2009 Annual Report'.

- During previous project meetings, LaBella requested that the applicant provide additional VOC data. To date that only additional information provided regarding the historical groundwater data associated with the former landfill is a copy of an email dated July 20, 2013 from Mr. Mark Domagala (NYSDEC) to Mr. John Caruso (Passero). The email states;

  > *Yes, I have B1 and B2. I am still looking for B7. B1 and B2 are non-detect for the VOCs. I should be able to locate data for B7 and will let you know.*

  B1 and B2 are located north of the former landfill footprint but still within the landfill parcel. These locations represent existing data points closest to the southern boundary of the development parcel. It is assumed that B1 in the discussion is the same or very similar to the location as B1R on TriTech's Figure 3 – Groundwater Monitoring Well, Gas Well, and Landfill Gas Vent Locations. No information was provided regarding the date of the sampling or any historical trends.

Conclusion:

Based on the statements made by the NYSDEC in the email dated July 20, 2013 it does not appear that widespread VOCs are migrating from the former landfill parcel northward onto the proposed development parcel. No information has been provided to confirm or deny the potential for VOC impacted groundwater to be potentially migrating westward from the former landfill onto the proposed development parcel. Groundwater flow is reported to be generally to the northwest.

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MEMORANDUM

TO: Mark Tayrien, AICP, LaBella Associates, D.P.C.

CC: Wes Pettee, LaBella

FROM: Dennis Porter, CHMM, LaBella

DATE: October 21, 2013

RE: Pinnacle Athletic Campus
Former Genesee Sand and Gravel Landfill
748 Phillips Road, Fishers, New York

LaBella Associates (LaBella) and Boylan Code met with Passero Associates (Passero) on July 16, 2013 to discuss the Monitoring Well Results that were submitted to the Town on June 28, 2013, as well as other SEQR-related topics that will need to be addressed prior to the Planning Board taking action on the Pinnacle Athletic Campus site plan. As a result of those meetings LaBella requested that Passero Associates provide additional site-specific information regarding environmental conditions at the proposed development parcel. LaBella subsequently met with Passero on August 21, 2013 to preliminarily review the new site-specific sampling completed at the proposed development parcel.

The following summarizes LaBella's opinion of the collective information provided by the applicant to date regarding;

Risk that contaminated substances associated with the presence of the former landfill would be encountered during development process including excavation for foundations and for utilities.

CONCLUSION: <u>Very Little Risk</u>.

Supporting Information:

The investigation conducted by SJB included the advancement of 6 soil borings to approximately 20 feet in depth. One (1) soil sample from each boring advanced within the boundaries of the proposed development parcel was submitted for laboratory analysis for United States Environmental Protection Agency (USEPA) Target Compound List (TCL) plus New York State Department of Environmental Conservation (NYSDEC) Spill Technology and Remediation Series (STARS) volatile organic compounds. Soil samples were selected from the lower portion of each boring to be representative of the zone most likely impacted by the potential transport of constituents of concern from the closed landfill onto the proposed development parcel. This sample interval would be deeper than the proposed excavation depths.

The analytical results indicate that USEPA TCL plus NYSDEC STARS volatile organic compounds were not detected in any of the soil samples submitted for laboratory analysis. Based on the analytical results, on-site soils at the locations tested do not appear to have been impacted from the migration of VOCs from the former landfill onto the proposed development parcel.

Risk that development of buildings in the locations shown on the concept plan (all phases) would lead to conditions where harmful substances would be trapped or concentrated and pose a health or safety risks to building occupants.

CONCLUSION: The Applicant has indicated that subslab vapor mitigation systems will be installed during construction. With such mitigation measures in place there is <u>Very Little Risk</u>.

Supporting Information:

The investigation conducted by SJB included 6 borings to approximately 20 feet in depth. Each boring was field screened using a Photoionization Detector (PID) and a Flame Ionization Detector (FID). The FID was equipped with a carbon filter in order to evaluate for methane (i.e., filtering out VOCs). The screening appears to have been completed on soil samples removed from the boring and screening above the recovered soils. The SJB report indicates that a background of 2 parts per million (ppm) was observed during the work and that the peak FID readings were 3 ppm, which may be attributable to moisture in the soil samples.

Based on the above characteristics, the field observations did not identify concentrations of concern in relation to methane. Specifically, the field observations noted a maximum of 1 ppm above background on the FID which would equate to approximately 0.0001% methane which is well below any concentration of concern. In addition, the borings completed by SJB did not note odors that are typical of landfill gases, such as sulfur odor.

Risk that the proposed approach to integrating new drainage improvements with the existing pond and/or other proposals to disturb that pond might lead to the presence of contaminated materials within on-site stormwater, within associated stormwater management facilities, within discharges from the site, within infiltration basins on the site or other transport (picked up in one location, conveyed and then infiltrated in another location).

CONCLUSION: <u>Moderate Risk</u>.

Supporting Information:

Based on the information provided to date, only sampling conducted associated with the 'NW Detention Pond' has been provided. The most recent data included with this data set is from a water sampling event conducted on October 7, 2009. Based on these results, only slight exceedances of the NYSDEC Part 703 Groundwater Effluent Limitations were detected.

No information has been provided regarding the potential for contaminated sediments to be contained with either the NE or NW Detention Ponds.

Risk that there is an undetected flow of contaminants from the adjacent landfill beneath the surface across the Pinnacle site

CONCLUSION: Given the NYSDEC's oversight role during the formal closure of the former Genesee Sand and Gravel Landfill and the site-specific groundwater data as provided by the Applicant there appears to be <u>Very Little Risk</u>.

Supporting Information:

Groundwater was reportedly not encountered at the depths investigated. As such, no on-site groundwater monitoring wells were installed or sampled at the proposed development parcel as part of the SJB Investigation. Historical groundwater data was provided in the '2009 Annual Report' (February 17, 2010 - TriTech Environmental Health and Safety) associated with the Former Genesee Sand and Gravel Landfill. Groundwater data included within this report indicate;

- Inorganic Analysis of groundwater samples collected on October 7, 2009 indicate that constituents of concern were detected above the NYSDEC Part 703 Groundwater Effluent Limitations in select wells associated with the former landfill, including wells located on the proposed development parcel. These detections do not appear to represent a remedial concern associated with the proposed development parcel. If impacted groundwater is generated as part of construction all discharges should be managed in accordance with the applicable rules and regulations.
- Historical VOC Analysis of groundwater samples was provided for wells B-1R, B2 & B6. B6 is located within the proposed development parcel and is located at the furthest sampling point west of the former landfill footprint. Although VOCs were detected above the NYSDEC Part 703 Groundwater Effluent Limitations during the previous sampling event (sampling date 11/10/08) no VOCs were detected above the method detection limits associated with the groundwater sample collected from B6 on July 8, 2009. No other VOC data was provided as part of the '2009 Annual Report'.

  B-1R and B2 are located north of the former landfill footprint but still within the landfill parcel. These locations represent existing data points closest to the southern boundary of the development parcel. VOC analytical results from samples collected in November 10, 2008 indicate that no VOCs were detected above the method detection limits associated with the groundwater samples.

  Note: Historically recorded groundwater depths associated with the existing wells located on the development parcel range from approximately 30 to 45 feet below the existing ground surface. These reported groundwater depths appear to be well below any anticipated construction activities.