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SMARTER ENVIRONMENTAL SOLUTIONS

September 8, 2017

Town of Chapel Hill
6850 Millhouse Rd.
Chapel Hill, NC 27516-8173

Attn: Mr. Lance B. Norris
Public Works Director

Re: Executive Summary
Remedial Investigation
Coal Combustion Products Fill Area
828 Martin Luther King, Jr. Blvd.
Chapel Hill, NC
H&H Job No. TCH-002

Dear Lance:

As requested, we have prepared this Executive Summary of the Remedial Investigation that has been performed at the property located at 828 Martin Luther King, Jr. Blvd. in Chapel Hill. The Remedial Investigation (RI) was performed at the request of the North Carolina Department of Environmental Quality (DEQ) due to the presence of coal combustion products (CCPs) which were placed at the site in the mid-1960s to mid-1970s. The purpose of the RI is to assess the nature and extent of potential soil, groundwater, surface water, and sediment impacts associated with the CCPs so that potential remedial alternatives can be evaluated.

Site History and Description

The site is comprised of one land parcel that is approximately 10.24 acres in size. The site was initially used as a borrow pit from the late 1950s to early 1960s, and then was used as a fill site from the mid-1960s to the mid-1970s. It appears that the fill initially consisted of construction debris, and then CCPs were placed above the construction debris for structural fill. The Town of Chapel Hill acquired the site in 1980 and constructed a two-story approximately 25,000 sq. ft building in the north-central portion of the site in the early 1980s that is currently used for police

department operations. The Town of Chapel Hill did not place the construction debris or CCPs at the site.

The site consists of 1) an "elevated area" where the building and parking lots are located in the northern and central portions of the site, 2) a "lower area" along Bolin Creek in the southern portion of the site, and 3) a steep, heavily vegetated "embankment" which separates the elevated area and the lower area. There is an approximate 40-ft elevation difference between the elevated and lower areas of the site. Bolin Creek traverses the southern portion of the site, and a portion of the Bolin Creek Greenway Trail is located in the southern portion of the site just north of and parallel to Bolin Creek.

Remedial Investigation Results

The RI was conducted in two phases in accordance with DEQ guidance. A Phase I RI was performed in 2013 - 2016 by Falcon Engineering, and a Phase II RI was conducted by Hart & Hickman in 2016 and 2017. The RI activities consisted of determining where CCP was placed at the site, an evaluation of cover soil overlying the CCPs, collection and analysis of CCP, soil, and groundwater samples from the site, and the collection of surface water and sediment samples from Bolin Creek. The activities were performed in accordance with work plans that were approved by DEQ.

The results of the RI activities indicate the following:

- CCPs are present in an approximate 4.5 acre area in the northern, northwestern, and northern portions of the site. CCP thickness is less than one foot thick to greater than 20 ft thick with an average thickness of approximately 8 ft. The amount of CCP placed at the site is estimated to be approximately 60,000 cubic yards.

- In the elevated portions of the site where the building and associated parking lots are located, the CCP is capped with clayey silt that ranges in thickness from less than 1 ft to approximately 10 ft thick, with most areas having greater than 2 ft of soil cover. Pavement and the building also overlie portions of the CCP in this area.

- CCP is exposed at the surface in the eastern and central portions of the embankment that separates the elevated and lower portions of the site. CCP in the western portion of the embankment is covered but with soil that is less than 2 ft thick. Erosion of CCP along some portions of the embankment has resulted in deposition of a layer of CCP generally less than 1 to 1.5 ft thick at the ground surface in some of the lower portions of the site north and south of the Bolin Creek Trail.

- Metals are the compounds of concern associated with CCP. Sampling of the CCP indicates that the primary metals that are present at levels of potential concern are arsenic, barium, hexavalent chromium, manganese, mercury, and selenium.

- Results of analysis of shallow soil samples collected near Bolin Creek Trail and from the cover soil in the elevated portions of the site indicate that the primary compound of concern is arsenic with less frequent detections of manganese and selenium.

- The results of the analysis of groundwater samples indicate that manganese is the primary compound of concern in groundwater with cobalt, chromium (which was not confirmed in re-sampling of the well in which it was detected), selenium, thallium, and vanadium detected at lower levels above North Carolina groundwater standards.

- Results of surface water and sediment sampling indicate that there is no significant impact to Bolin Creek from the CCPs.

- The primary route of exposure for shallow soil and CCP is through potential direct contact during public visits to Bolin Creek Trail, worker and public visits to the site

building, and potential construction work. A risk evaluation performed by DEQ indicated that soil along the Bolin Creek Trail did not pose a significant risk to visitors or construction workers. Although a formal risk evaluation has not been performed for the elevated portions of the site, given the commercial use of the area, the fact that much of the area is paved, and that only lower levels of metals have been detected in cover soil, it is unlikely that shallow soil in the elevated portions of the site poses a significant risk. Direct contact to the exposed areas of CCP is possible but unlikely given the steep embankment and overgrown nature where the CCP is exposed. In addition, a fence has been placed between the Bolin Creek Trail and the areas of exposed CCP to further minimize the potential for direct contact.

- There are no groundwater users (such as water supply wells) in the area of the site. The primary potential exposure route for impacted groundwater is through discharge to Bolin Creek. However, as noted above, there is no significant impact to Bolin Creek from the CCP.

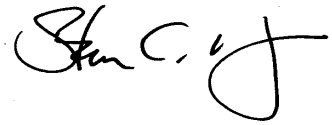
Next Steps

The revised Phase II RI Report was submitted to DEQ on August 25, 2017. We anticipate that the next step will be that DEQ will approve the Phase II RI Report and will request preparation of a Remedial Action Plan (RAP). The purpose of the RAP is to evaluate different remedial alternatives to address potential risks associated with the CCP-related impacts at the site.

Should you have any questions or need additional information, please do not hesitate to call me at (704) 586-0007.

Very truly yours,

Hart & Hickman, PC



Steven C. Hart, PG
Principal Hydrogeologist